THE

AMERICAN JOURNAL

OF THE MEDICAL SCIENCES

FOR OCTOBER, 1848.

CONTRIBUTORS TO THIS VOLUME.

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R. Wilcox, M. D., *of Elmira, N. Y.*

Albert T. Wheelock, M. D., *of Belfast, Me.*

TO READERS AND CORRESPONDENTS.

Our Montreal correspondent is informed that the publishers cannot furnish the first thirteen volumes of this Journal.

The initials W. P. should have been appended to the able review of Dr. Stille's Elements of General Pathology, p. 377.

Credit should have been given to Dr. Hughes, and not to Dr. Easleman, for the statistical researches on chorea at page 454 of this No.

The following works have been received:—

Boa Vista Fever. Return to an Address of the Honourable the House of Commons, dated 4th February, 1848, for a copy of Dr. King's Report on the Fever of Boa Vista. London, 1848. (From Dr. McWilliam.)

Dr. McWilliam's Remarks on Dr. King's "Report on the Fever at Boa Vista," ordered, by the House of Commons, to be printed, 10th March, 1848. (From the Author.)

Principles of Medicine: comprising General Pathology and Therapeutics, and a brief general view of Etiology, Semeiology, Diagnosis, Prognosis, and Hygienics. By Charles J. B. Williams, M. D., F. R. S., &c. &c. &c. Edited, with additions, by Meredith Clymer, M. D., Fellow of Philad. Coll. Phys., &c. &c. &c. Third American, from the second and enlarged London edition. Philadelphia, Lea & Blanchard, 1848. (From the Publishers.)

A Dispensatory, or Commentary on the Pharmacopœias of Great Britain (and the United States): comprising the Natural History, Description, Chemistry, Pharmacy, Actions, Uses, and Doses of the Articles of the Materia Medica. By Robert Christison, M. D., V. P. R. S. E., &c. &c. &c. Second edition, revised and improved, with a Supplement, containing the most important New Remedies. With copious additions, and 213 illustrations, by R. Eglesfeld Griffith, M. D., &c. Philadelphia, Lea & Blanchard, 1848. (From the Publishers.)

Medical Chemistry for the Use of Students and the Profession: being a Manual of the Science, with its Applications to Toxicology, Physiology, Therapeutics, Hygiene, &c. By D. P. Gardner, M. D., formerly Prof. Chem. in Philad. Coll., &c. &c. Philadelphia, Lea & Blanchard, 1848. (From the Publishers.)

A System of Human Anatomy, General and Special. By Erasmus Wilson, M. D., Lecturer on Anatomy, London. Fourth American from the last London edition. Edited by Paul B. Goddard, A. M., M. D., Prof. Anat. and Hist. in Franklin Med. Coll. With 251 illustrations by Gilbert. Philadelphia, Lea & Blanchard, 1848. (From the Publishers.)

An Analytical Compendium of Various Branches of Medical Science, for the Use and Examination of Students. By John Neill, M. D., Demonstrator of Anat. in Univ. of Penna., &c., and Francis Gurney Smith, M. D., Lecturer on Phys. in Philad. Ass., &c. Philadelphia, Lea & Blanchard, 1848. (From the Publishers.)

Medical Lexicon. A Dictionary of Medical Science, containing a concise Explanation of the various Subjects and Terms, with the French and other Synonymes, notices of Climate and of celebrated Mineral Waters, Formulæ for various officinal and empirical preparations, etc. By Robley Dunglison, M. D., Professor of the Institutes of Medicine, etc., in Jefferson Medical College, Philadelphia. Seventh edition, carefully revised and greatly enlarged. Philadelphia: 1848. Lea & Blanchard. (From the Publishers.)

Researches on the Chemistry of Food, and the Motion of the Juices in the Animal Body. By Justus Liebig, M. D., Prof. of Chem. in the Univ. of Giessen. Edited from the MS. of the author, by Wm. Gregory, M. D., Prof. of Chem. in the Univ. of Ed. Edited from the English edition by Eben N. Horsford. A. M., Rumford Prof. in the Univ. of Cambridge. Lowell: Daniel Bixby & Co., 1848. (From the Publishers.)

A Practical Treatise on the Diseases of Children. By J. Forsyth Meigs, M. D., Lecturer on the Diseases of Children in the Philad. Med. Association. Philadelphia, Lindsay & Blakiston, 1848. (From the Publishers.)

The Trial of William Freeman for the Murder of John G. Van Nest, including the Evidence and the Arguments of Counsel, with the Decision of the Supreme Court granting a New Trial, and an Account of the Death of the Prisoner, and of the Post-mortem Examination, &c. Reported by Benj. F. Hall, Counsellor at Law. Auburn: Derby, Miller & Co., 1848. (From the Publishers.)

Lead Diseases. A Treatise from the French of L. Tanquerel des Planches. With notes and additions on the Use of Lead Pipe and its Substitutes. By Samuel L. Dana, M. D., L. L. D., &c. &c. &c. Lowell: Daniel Bixby & Co., 1848.

A Practical Treatise on Poisons: their Symptoms, Antidotes, and Mode of Treatment. By O. H. Costill, M. D. Philadelphia, Grigg, Elliot & Co., 1848. (From the Author.)

The Principles and Practice of Medicine, in a Series of Essays. By John W. Hood, M. D. Philadelphia, Thomas, Cowperthwait & Co., 1848. (From the Author.)

Illustrations of Medical Botany: consisting of Coloured Figures of the Plants affording the important articles of the Materia Medica, and Descriptive Letterpress. By Joseph Carson, M. D., Prof. Mat. Med. in Philad. Coll. of Pharm., &c. &c. No. 5. Philadelphia, R. P. Smith, 1848.

A System of Clinical Medicine. By Robert James Graves, M. D., M. R. I. A., &c. &c. &c. With Notes and a series of Lectures, by W. W. Gerhard, M. D., Lecturer on Clinical Medicine in Univ. of Penna. Third American edition. Philadelphia, Ed. Barrington & Geo. D. Haswell, 1848. (From the Publishers.)

An Account of some of the Most Important Diseases incident to Women. By Robert Gooch, M. D. With illustrations. Second edition. Philadelphia, Ed. Barrington & Geo. D. Haswell, 1848. (From the Publishers.)

Die Krankheiten der Milz Eine Pathologisch-Therapeutische Abhandlung. Von Dr. C. B. Heinrich. Leipzig, 1847. (From Dr. Oppenheim.)

The Nature and Treatment of Deafness and Diseases of the Ear; and the Treatment of the Deaf and Dumb. By William Dufton, M. R. C. S. Philadelphia, Lea & Blanchard, 1848. (From the Publishers.)

Valedictory Address to the Medical Class and Graduates of the Indiana Medical College at the Public Commencement, Feb. 19th, 1848. By A. B. Shepman, M. D., Prof. of Surgery. Syracuse, 1848. (From the Author.)

Annual Report of the Regents of the University of the State of New York. Albany, 1848. (From Dr. T. R. Beck.)

A Complete Practical Work on the Nature and Treatment of Venereal Diseases and other Affections of the Genito-Urinary Organs of the Male and Female. Illustrated by a great number of beautifully Coloured Plates, and many finely executed delineations on Wood. By Homer Bostwick, M. D. New York, Burgess, Stringer & Co., 1848. (From the Author.)

A Treatise on the Nature and Treatment of Seminal Diseases, Impotency, and other kindred affections, with Practical Directions for the Management and Removal of the Causes producing them, together with Hints to Young Men. By Homer Bostwick, Surgeon. Second edition. New York, Burgess, Stringer & Co., 1848. (From the Author.)

Annual Report to the Managers of the Royal Edinburgh Asylum, for the year 1847. By David Skae, M. D., Physician to the Asylum. (From the Author.)

Analysis of Bladin Springs. By R. T. Brumley, Prof. of Chem., &c., Univ. of Alabama. Tuscaloosa, 1848. (From Dr. A. B. C. Dossey.)

An Address delivered before the Class of the Castleton Medical College, on the History of the Original Application of Anæsthetic Agents, May 17th, 1848. By E. R. Smilie, M. D. Boston, 1848. (From the Author.)

Report of the Medical Department of the University of Pennsylvania, for the year 1848; to the Alumni of the School. By the Medical Faculty. Philadelphia, 1848.

Catalogue of the Trustees, Officers, and Students of the Indiana Medical College, La Porte, Ia. Session, 1847–48.

Catalogue of the Second Session of the Memphis Medical College. Session 1847–48. Memphis, 1848.

Annual Announcement of the Medical Department of the St. Louis University. Session 1848–49. St. Louis, 1848.

Ninth Annual Announcement of the Baltimore College of Dental Surgery. Baltimore, 1848.

Annual Circular and Catalogue of the Medical Department of the University of Buffalo. Buffalo, 1848.

Annual Announcement of Cleveland Medical College. Session 1848–49. Cleveland, O., 1848.

College of Physicians and Surgeons in the City of New York. University of the State of New York. Catalogue of the Officers and Students of the College, and Annual Announcement of Lectures. 42d Session, 1848–49. New York, 1848.

Report of the Medical Missionary Society of China; the Fourth Report of the Ophthalmic Hospital, Canton, embracing the period from July 1, 1845, to Dec. 31, 1847. By Rev. F. Parker, M. D., &c. &c. Canton, 1848. (From Mr. R. P. Desilver.)

Report of the Secretary of State [New York] of the number of Births, Marriages, and Deaths, for the year 1847. (From Dr. T. R. Beck.)

The British American Journal of Medical and Physical Science. Edited by Archibald Hall, M. D., &c. &c. July, August, Sept., 1848.

Summary of the Transactions of the College of Physicians of Philadelphia. April to August, 1848, inclusive.

Revue Médicale Française et Etrangère. Par J. B. Cayol, Ancien Professeur, &c. &c. &c. Nov., Dec., 1847—Jan., Feb., 1848.

Gazette Médicale de Paris. Dec., 1847—Jan., Feb., March, April, May, 1848.

Annales de Thérapeutique Médicale et Chirurgicale et de Toxicologie. Publiées par M. le Docteur Rognetta, Mem. de l'Acad. des Sc. de Naples, &c. &c. Dec., 1847—Jan., Feb., March, April, 1848.

Journal de Médecine et de Chirurgie Pratiques à l'Usage des Médecins Praticiens. Par Lucas Championnière, D. M. P. Dec., 1847—Jan., Feb., March, April, May, 1848.

Journal des Connaissances Médico-Chirurgicales. Publié par le Dr. A. Martin Lauzer. Dec., 1847—Jan., Feb., March, April, May, 1848.

Journal des Connaissances Médicales Pratiques et de Pharmacologie. Dec., 1847—Jan., Feb, March, April, 1848.

Journal de Pharmacie et de Chimie par MM. Boullay, J. P. Boudet, Bussy, Soubeiran, Henry F. Boudet, Cap, Boutron—Charlard, Fremy et Guibourt, suivi d'un Compte Rendu des Travaux de Chimie. Par M. Charles Gerhardt. Dec., 1847—Jan., Feb., March, April, 1848.

Annales Médico-Psychologiques. Journal de l'Anatomie, de la Physiologie, et de Pathologie du Système Nerveux. Par MM. Baillarger, Cerise et Longet. Jan., March, 1848.

Revue Médico-Chirurgicale de Paris. Sous la Direction de M. Malgaigne, Chirurgien de l'Hôpital St. Louis, &c. May, June, July, 1848.

Zeitschrift für die Gesammte Medicin. Heransgegeben von F. W. Oppenheim. Dec., 1847—Jan., Feb., March, April, May, June, July, 1848.

Adolph Henke's Zeitschrift für die Staatsarzneikunde, fortgesetzt von Dr. A. Siebert, o-o., Prof. der Medecin in Jena. 37 Erg. Bd. 55, heft. 2.

Archief voor Geneeskunde. Ditgegeven Door Dr. J. P. Heije, Vijfde Deel. Amsterdam, 1846.

The Dublin Quarterly Journal of Medical Science. May, August, 1848.

The British and Foreign Medico-Chirurgical Review. July, 1848.

The Edinburgh Medical and Surgical Journal. July, 1848.

Monthly Journal and Retrospect of the Medical Sciences. June, July, Aug., Sept., 1848.

The London Medical Gazette. June, July, Aug., 1848.

The Half-Yearly Abstract of the Medical Sciences. Edited by W. H. Ranking, M. D., Cantab. Jan., June, 1848.

The Retrospect of Medicine, being a Half-Yearly Journal. By W. BRAITHWAITE, Lecturer on Obstetric Medicine, &c. Jan., June, 1848.

Buffalo Medical Journal. Edited by AUSTIN FLINT, M. D., &c. June, July, August, 1848.

The Medical Examiner and Record of Medical Science. Edited by R. M. HUSTON, M. D., &c. July, Aug., Sept., 1848.

Southern Medical and Surgical Journal. Edited by Paul F. EVE, M. D. July, Aug., Sept., 1848.

The North-Western Medical and Surgical Journal. Edited by Drs. HERRICK and EVANS, Profs. in Rush Med. Coll. June and July, 1848.

The American Journal of Insanity. Edited by the Officers of the New York State Lunatic Asylum, Utica. July, 1848.

The New Jersey Medical and Surgical Reporter and Transactions of the New Jersey Medical Society. Edited by JOSEPH PARRISH. July, 1848.

The Charleston Medical Journal and Review. Edited by Drs. P. C. GAILLARD and H. W. DE SAUSSURE. July, Sept., 1848.

The Western Lancet and Hospital Reporter. Edited by L. M. LAWSON, M. D., and J. P. HARRISON, M. D. July, Sept., 1848.

The New Orleans Medical and Surgical Journal. Edited by J. HARRISON, M. D., and A. HESTER, M. D. July, Sept., 1848.

The Western Journal of Medicine and Surgery. Edited by Drs. D. DRAKE, L. P. YANDELL, M. D., and T. W. COLESCOTT, M. D. July, Aug., Sept., 1848.

The Annalist, a Record of Practical Medicine in the City of New York. Edited by WM. C. ROBERTS, M. D. July, Aug., Sept., 1848.

The American Journal of Science and Arts. Conducted by Profs. B. SILLIMAN, and B. SILLIMAN, jr., and J. D. DANA. July, Sept., 1848.

The Literary World. A Journal of American and Foreign Literature, Science, and Art. July, Aug., Sept., 1848.

The American Journal of Pharmacy. Published by authority of the Philadelphia College of Pharmacy. Edited by J. CARSON, M. D., and WM. PROCTOR, jr., Profs. in the College. Assisted by a Publishing Committee. July, 1848.

The Missouri Medical and Surgical Journal. Edited by Drs. T. BARBOUR and A. J. COONS. July, 1848.

The American Journal and Library of Dental Science. Edited by Drs. HARRIS and WESTCOTT, and Mr. DEVENELLE. July, 1848.

The Ohio Medical and Surgical Journal. Edited by JOHN BUTTERFIELD, M. D., Prof. of the Pract. of Med. in Starling Med. Coll. No. 1. Sept., 1848.

The New York Journal of Medicine and the Collateral Sciences. July, 1848.

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All remittances of money, and letters on the *business* of the Journal, should be addressed *exclusively* to the publishers, Messrs. Lea & Blanchard.

☞ The advertisement-sheet belongs to the business department of the Journal, and all communications for it should be made to the publishers.

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XVIII. A Practical Treatise on the Diseases of Children. By J. Forsyth Meigs, M. D., Lecturer on the Diseases of Children in the Philadelphia Medical Association: Fellow of the College of Physicians of Philadelphia. 12mo. pp. 575. Philadelphia: Lindsay & Blakiston, 1848. - - - 407
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Art. I.—*Remarks on the Oxalate of Lime Diathesis, with Cases illustrative of the Disease.* By Charles Frick, M. D., of Baltimore.

During the past year, we have devoted a considerable portion of our time to an examination of the urinary secretion, and have been enabled by its assistance in a good many instances to make out a diagnosis when all other means failed. Some nine or ten of these were characterized by the presence of oxalate of lime, and from them we have selected the following cases. They are reported, in addition to what has been already written, for the purpose of showing the important aid that an examination of the urine often lends to diagnosis.

The frequent occurrence of this salt in the urinary secretion, in a comparatively limited number of observations, has led us to the conclusion that it is by far the most common abnormal deposit that is met with requiring a decided treatment, and at the same time that it is one of the most important of all the urinary diseases. It is important in the first place, from the obscurity of its diagnosis, so far as relates to general symptoms; for in all the cases that we have seen, the patients have either been treated previously for some other disease, or a microscopic examination of the urine has only been resorted to, because the ordinary means of diagnosis failed to account satisfactorily for the origin of the symptoms. It is important in the second place because it yields readily to treatment; all the cases we have seen having been either cured or much relieved when proper remedies were used. We are glad that we are able to add the testimony of these few cases in support of the large number collected by Dr. Golding Bird, proving the great frequency of this disease, and its comparative curability. Its prominent symptoms are all characterized by great nervous

depression, and in every instance the patient's expression and appearance led to the suspicion, at the first interview, that he was suffering from seminal emissions.

Characters of the Urine.—In no case were we able to distinguish the oxalate by the naked eye, and have generally found it equally disseminated throughout the vessel, never subsiding so as to form a deposit. In all but one instance there was a sediment at the bottom of the glass, consisting either of epithelium scales, or urate of ammonia; and we were led in one case to suspect the presence of the oxalate, from the unusual quantity of epithelium scales. The specific gravity was about the same average as that of healthy urine, and the reaction always acid with one exception, in which case it was neutral. The urea and phosphates were almost invariably in excess, while the uric acid was deficient, and towards the termination of the case as the oxalate disappeared, in two instances we remarked the presence of a few crystals of the triple phosphate, and in three, the appearance of lithic acid in the form of rectangles; in one case, this latter was in considerable abundance. Specimens of urine voided at different periods of the day contained the oxalate in variable proportions, being sometimes entirely wanting, while the largest quantity was generally found in that passed just before going to bed. The crystals, as observed under a microscope, magnifying about 250 diameters, differed not only in size but also in shape. The most common variety were double pyramids, joined together at their bases, each base being a square with the sides equal to the height of the pyramid; these sides varied in length, from one-third of a line to three lines. The crystals were usually of one uniform size in the same specimen, but often differed from day to day in the same individual. The variety that occurred most frequently next in order was the dumb bell, in length from two to four lines, the sides being much less concave than those figured by Golding Bird; occasionally, as a modification of this form, the dumb bell would be surrounded by an oval, the interval between the oval and the dumb bell being of a black colour. The next was a dark oval of the same size as the preceding, with a transparent square occupying half its surface set in the middle. We have also observed others occasionally, which would be difficult to describe without plates, but which were all modifications more or less of the last two varieties.

In all the cases, the patients either were at the time, or had been previously suffering from some form of dyspepsia, to which the formation of the oxalate seemed to be a consequence; and in fact, oxaluria should rather be considered as a symptom of one form of dyspepsia, than as a separate disease. Dr. Bird has, however, so well explained the probable origin and formation of this salt, that it would be out of place to enter into any additional explanation here. We would remark, however, that two of these patients (we regret that the inquiry was not made of all), complained that they had never been able to eat tomatoes without suffering an aggravation

of all their symptoms. This, as is well known, is one of the most digestible articles of food that we possess, but yet contains a large amount of oxalic acid, which, although readily eliminated by individuals in good health, we can easily imagine might not be so readily appropriated where the system was already fully charged with it.

The symptoms that the presence of this salt produced, are almost innumerable. We have seen, in one instance, in a patient of Dr. T. Buckler's, an August cold as it is termed, which had appeared almost on the same day for years in succession, be coincident with large quantities of oxalate of lime in the urine, and be promptly relieved by appropriate treatment. May it not be that many of these colds owe their origin to this cause, and are periodical in their appearance in consequence of the ingestion of oxalic acid, which is taken in the articles of food which are in season only at this period of the year, particularly tomatoes? We have also known oxalate of lime to be associated with facial neuralgia, which promptly disappeared under the use of nitro-muriatic acid; indeed, in two of the following cases, one of the most prominent symptoms was neuralgia of the fifth pair of nerves. It will also be seen in case No. IV., that the presence of this salt was coincident with amaurosis, which improved in proportion to the diminution of the oxalate from the urine. The most striking symptoms, however, of this diathesis, are found in derangements of the nervous system. The patients all complained of unusual depression of spirits, distaste for society, and inability for physical or mental exertion; oftentimes these symptoms would be attended with a feeling of general malaise, without any decided localized uneasiness. In most instances there were some evidences of gastric derangement, such as a sense of oppression after eating, constipation, furred tongue, and enlargement of the papillæ; but these symptoms were not constant. As a general rule, there was no particular disturbance about the urinary organs, occasionally pain in the loins, irritability of the bladder, and pain in micturition; but with one exception these were not prominent symptoms. Emaciation was by no means constant, nor did we observe, in any instance, the peculiar greenish tinge of the complexion, spoken of by Dr. Prout. It is needless for us to go into any further detail in regard to the symptoms of this disease. They have been so fully and ably discussed by Dr. Bird, that it would be out of place for us, from our small experience, to add anything beyond a simple detail of facts, to what he has already written.

I should add that but a small number of the cases alluded to here, have occurred in my own practice, the rest I have had access to through the kindness of my friends. The cases numbered two and three occurred in the practice of Dr. Power.

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Case I.—*Follicular Gastritis coincident with the presence of Oxalate of Lime in the Urine.*

January 27th, 1848.—Ashby Carter, a mulatto, æt. 42, a barber by trade, is married and has a family. He is very tall and a good deal emaciated, and says that he has not been well for eight or ten years, suffering principally from muscular debility. During this time he has had occasional attacks of what he calls dyspepsia, which obliged him to discontinue work from periods of one to three weeks. He says that he never noticed any peculiarity about his urine, nor has he had any pain over the loins. Since last November he has been getting worse by degrees, and has now been confined to his room for two weeks. His countenance is sunken, and expression of face anxious. Has considerable cough and pain in different regions of his chest, but no physical signs indicative of disease. He suffers greatly from neuralgia of the superior branch of the fifth pair of nerves, which has latterly been almost constantly present. Great muscular debility, restlessness, and incapacity for any mental exertion. Tongue moist and natural, but the papillæ are much enlarged and reddened; at the root of this organ some of them are as large as duck shot. Appetite good, but most articles of food produce uneasiness after eating; bowels usually tympanitic, and habitually constipated. There is slight pain over the loins, and almost constant irritability of the bladder, obliging him to rise three or four times during the night. A specimen of his urine was as follows: appearance natural, specific gravity 1.031; on holding it to the light a slight cloud is perceptible; urea and phosphates normal, uric acid deficient; a drop placed under the microscope reveals an unusual quantity of epithelium scales, and a few crystals of uric acid. Supposing, from the large quantity of epithelium scales present, that oxalate of lime might exist, it was examined attentively, but no crystals could be discovered. The patient was then directed to collect all that was passed during the subsequent twenty-four hours, and on examining a drop of this, large quantities of the oxalate were found. The shape of these were double pyramids of different sizes, the bases varying in appearance from one-eighth of a line to three lines in length. Ordered counter-irritation to the stomach, with a farinaceous diet, and ox. argenti half grain, with fel. bovis gr. iij three times daily.

Feb. 2d.—Patient's condition somewhat improved; his food agrees better with him, and his bowels are regular. Urine remains the same. Ordered to take in addition nitro-muriatic acid in infusion of gentian.

10*th.*—The acid disagreed so much that he was obliged to discontinue its use after a few doses. His tongue now looks better, but he says he still feels very weak. Ordered some animal food, and renewed the acid, substituting an infusion of hops for the gentian. Urine still contains the same amount of oxalate of lime.

March 2d.—Patient expresses himself as greatly better. Has been out

of doors for the last week. Bowels regular; appetite good, and no sense of uneasiness after eating. The neuralgic pains have much improved, and also the irritability of the bladder. Papillæ on the tongue still much enlarged. Ordered to stop the ox. argenti and fel. bovis, and go on with the acid twice daily.

April 4th.—Patient has been improving fast since the last note. He has gained flesh; has gone about his usual occupation, and suffers no longer from neuralgia. His urine is as follows: urea and uric acid slightly in excess. Phosphates deficient. A few isolated crystals of oxalate of lime with an occasional one of the triple phosphate are perceptible under the field of the microscope.

Case II.—*Feb. 22d*, 1848 ——— ———, æt. 36, and a lawyer by profession. His attack commenced about four months since, and he has been gradually getting worse. After being subjected for some time to the influence of moral causes, which tended to depress his nervous system, he found that his digestion had become impaired, that he had acquired a distaste for society, and was incapable of either mental or physical exertion. About two weeks since, in addition to these symptoms, he found himself seized with attacks of vertigo, and great muscular debility, so violent at times that he would fall down suddenly, and require assistance to reach his home. This last symptom has increased so much within a few days past, that he is now unable to leave the house. At present his condition is as follows. Muscular development moderate, but no emaciation; countenance pale and sallow; skin moist, cold and clammy; tongue slightly furred, complete anorexia, and constipation; vertigo on the slightest exertion; pulse weak, otherwise natural, pain over the loins and along the course of the urethra, particularly in urinating; great confusion of thoughts and depression of spirits, perfect inability to apply his mind to even the ordinary affairs of every day life, and extreme despondency. An examination of a specimen of his urine gave the following result. Colour deep red, specific gravity not ascertained. Large and copious yellowish-white deposit at the bottom of the glass, which clears up on heating it, and consists of urate of ammonia. On examining a drop of the lowest strata under the microscope, numerous crystals of oxalate of lime are perceptible of different shapes. The most abundant are of two different kinds, the one being very small double pyramids with square bases; and the other flat ovals from two to three lines in length of a black colour, with the exception of a small transparent square in the middle. There are also some double pyramids of a larger size, and a few dumb bells, the latter being less concave at the sides than those figured by Golding Bird in his work on Urinary Diseases. In addition to the oxalate, there are observable large quantities of epithelium scales, and a few grains of lithic acid. The phosphates are deposited in the usual quantity on the addition of ammonia,

and the urea is much increased while the uric acid is nearly wanting. Ordered a few doses of mass. hydrarg. with iron and quinine.

Feb. 25*th.*—Symptoms nearly the same; ordered nitro-muriatic acid with chamomile tea three times daily.

March 13*th.*—Has been improving steadily since he commenced using the acid. Is walking about, and says he thinks he will now get well. A specimen of his urine was as follows: urea and uric acid nearly normal. Some very minute crystals in the form of pyramids and a few dumb bells, such as have been previously described, were observable, the whole quantity being very much less than in the specimen first examined.

21*st.*—Says he is perfectly well; skin and colour natural; no oxalate in the urine; but a few crystals of the triple phosphate are to be seen.

Case III.—*May* 2*d*, 1848 ——— ———, æt. 24, a lawyer by profession, has always led a sedentary life, and been of studious habits. He has been unwell for the last three months, and suspects himself to have phthisis, to which he has a hereditary predisposition. He is slightly made, a good deal emaciated, and pale and sickly in appearance. He complains principally of great depression of spirits, and inability to mental or physical exertion. Appetite good, digestion performed without any sense of uneasiness; bowels regular, and no local symptom which would lead us to suspect urinary disease. Tongue enlarged and covered with a white fur, cracked in the centre, and the papillæ much reddened and elevated. The same condition of papillæ is observed in the back fauces and around the uvula. He has cough occasionally, and neuralgic pains in different parts of his chest. Slight pain after exertion in the loins; pulse 96 and feeble. There are no physical signs about his chest indicative of disease, and his whole appearance would rather lead to the suspicion of his suffering from seminal emissions, which, however, is not the case. A specimen of his urine passed in the morning is as follows: colour natural; specific gravity 1.028, acid reaction and slight flocculent deposit. Urea and phosphates considerably in excess. Uric acid deficient. The deposit is found to consist principally of epithelium scales, and large quantities of oxalate of lime in the form of double pyramids with a square base, the sides being about one line in length apparently. Ordered nitro-muriatic acid, with an infusion of chamomile three times daily.

May 25*th.*—Is much improved within the last week. His apprehensions of phthisis have been removed; but he still feels incapable of exertion. Ordered to go on with same treatment. Urine as follows: colour natural; flocculent deposit at bottom of vessel; specific gravity 1.025. Urea and uric acid nearly normal. Ammonia throws down an excess of phosphates, and there seems to be a trace of sugar, but this is doubtful. The microscope shows the quantity of the oxalate to be much diminished, a few crystals only being perceptible, and there are also fewer epithelium

scales. Lithic acid, however, is present in considerable quantity in the form of long slender rectangles which cross each other in the centre forming stars. Ordered to stop the acid, and take phosphate of ammonia.

June 10th.—Is nearly well; looks much better; has lost his disinclination for society. The urine contains only a few epithelium scales as a deposit.

Case IV.—*Feb. 5th*, 1848. ——— ——— æt. 25, a lawyer by profession, large and fleshy, but with a pale and clammy looking skin, and sedentary habits, presented himself with the following symptoms. He has been unwell for the last four years, suffering with obscure symptoms of disease, which by his friends have been thought to be imaginary in a great measure, and though not sufficient to confine him to the house, have rendered him incapable of attending properly to his profession. He has had at various times within this period, neuralgia about the face occurring principally in the fifth pair of nerves, pain in the loins, indistinctness of vision, great depression of spirits, and disinclination for society. He has also noticed that his urine abounded in a reddish-white deposit at times, coincident with the aggravation of his other symptoms. His father, for a long period of his life, was troubled with some urinary disorder, the exact nature of which is not known. At present he suffers from constipation and anorexia; coldness and moisture about his hands; occasional neuralgia and sense of weakness over the loins; great depression of spirits and disinclination for society; pain along the urethra in making water, and some irritability of the bladder. His pulse and tongue are natural, the first rather small. The prominent symptom, however, with him is inability to use his eyes for more than a very short period at a time; vision becoming indistinct, and muscæ volitantes making their appearance. This disturbance of vision has induced him to consult several eminent oculists, who regarded it as a local affair, and treated him without benefit. A specimen of his urine passed this morning was as follows: colour natural; slight filmy deposit on standing some time, reaction faintly acid, and specific gravity 1.036; the quantity of uric acid is less than normal, while urea and the phosphates are in excess. Nitric acid produces a brown opaque cloud throughout, which clears up on heating it, and is probably mucus. The deposit at the bottom of the glass, examined through a microscope, consists of minute crystals of oxalate of lime in the form of double pyramids in great abundance, and large quantities of epithelium scales.

March 7th.—The patient has been out of town since the last date, and has been subjected to no treatment. The symptoms remain nearly the same; the pain along the urethra is worse at times, and is coincident with increased disturbance of vision. He describes the pain as smarting and burning, and worse during the act of micturition. A specimen of urine voided at night is as follows: urea in excess; decidedly acid reaction,

specific gravity not ascertained. A thick layer of urate of ammonia of a cream colour is deposited at the bottom of the glass. On heating this, and submitting a drop of it to the microscope, great quantities of oxalate of lime are discoverable at first glance, looking like squares with bases of a half to one line, but a little attention soon shows them to be double pyramids, joined together at their bases. The following treatment was ordered. Diet to consist of an equal mixture of animal and vegetable food simply dressed, abstinence from stimulating drinks, and ℞.—Fel. bovis ʒij; ox. argenti ʒss. Ft. pill. xxx. One twice daily. Also ℞.—Nitro-muriatic acid ʒiij; comp. infus. gentianæ ℥vj. Teaspoonful gradually increased to a tablespoonful after each meal.

13*th*.—The pills purge, and the acid disagrees. Advised to discontinue the first except when necessary, and to omit the acid for a few days. Symptoms the same. Urine contains, in addition to the oxalate, some crystals of lithic acid deposited spontaneously.

30*th*.—The acid made in the usual proportions produced so much disturbance of stomach, that the nitric and muriatic acids were combined in equal proportions, and an infusion of hops substituted for the gentian. This he has been taking for ten days, and his symptoms are much ameliorated. His spirits are more cheerful; the pain along the urethra has disappeared, and vision is much improved. Two specimens of urine were brought for examination, differing widely in composition. The average specific gravity of the two was 1.027. The oxalate was entirely wanting in the morning specimen, and in but small quantity in that passed at night. In other respects it was similar to that examined previously with the exception of an absence of epithelium scales. Ordered to continue the same treatment.

April 18*th*.—Patient's complexion is more natural, and he describes himself as being in better health than he has been for two years. His vision is so much improved that he now experiences very little inconvenience from it. He admits to have been guilty during the last few weeks of occasional indiscretions of diet, which have retarded his improvement. His urine was not examined. Ordered to proceed.

Since the last date the patient has not returned, and we conclude that he is either well or greatly improved. This case is in some respects an obscure one, but we suppose the prominent symptoms to have been dependent on the presence of the oxalate, from the fact of their amelioration being coincident with the disappearance of the salt from the urine.

A majority of the cases, from which the previous observations have been made, were comparatively mild, and in all the treatment was eminently successful. Evidences of gastric derangement being nearly always present, it was generally found necessary when the patient was first subjected to treatment to use appropriate means for its subdual. These were sometimes sedatives, sometimes massa hydrarg., and in two or three instances

fel. bovis with ox. argent.; but in no case was it found that the oxalate disappeared from the urine under their administration. Nitro-muriatic acid in doses of from four to ten drops three times daily, combined with some tonic infusion, was used in all the cases. In but two instances did it disagree, and this was remedied by adding to it an infusion of hops. In addition to these means, the diet was carefully regulated, using an equal mixture of animal and vegetable food plainly dressed, and abstaining from stimulating drinks; at the same time exercise, bathing and the usual hygienic means were insisted on. We have heard two patients say that the acid acted upon them as an anodyne, that frequently when suffering from neuralgia and an undefined sense of uneasiness which prevented sleep, a single dose of the medicine would procure most decided relief for an interval of some hours. If this relief was not owing to the imagination, it could only have been produced by the action of the acid upon the oxalate of lime, which we think is not at all improbable.

Baltimore, *June 24th*, 1848.

Art. II.—*Surgical Cases reported to the Bureau of Medicine and Surgery.* By M. G. Delaney, M.D., Surgeon U.S. Navy. (Communicated to this Journal by Thomas Harris, M.D., Chief Bureau Med. and Surg.)

Amputation of the thigh by circular incision.—I wish to call the attention of the profession to the new mode of amputation at the lower third of the thigh, proposed and practiced, with success, by Professor Syme of Edinburgh. The superiority of the flap over the circular operation will admit of a doubt; and the facility of its performance, and nice mechanical adaptation of parts, will scarcely compensate for the not uncommon occurrence of a conical stump. In fact, many able surgeons who advocated the flap operation, and performed it in almost all cases, have now, to a certain extent, abandoned it.

The advantages claimed for it are quickness of performance, and a good muscular cushion for a stump: the first, where it occurs, is a matter of small moment; the latter, a circumstance not necessarily resulting.

Its disadvantages are known to be, increased pain from oblique incision of the nerves, increased hemorrhage from oblique incision of the arteries, the necessity of a greater number of ligatures than is ordinarily used in the circular operation, the greater probability of secondary hemorrhage, retraction of muscles, and finally, a conical stump. It is true that many of the best surgeons continue to practice the flap operation, who, if the results I have mentioned were of common occurrence, would have long

since abandoned it; but in the absence of comparison, it is natural to prefer that mode which is most familiar, and in which we can exhibit the greater dexterity. What I mean to imply simply, is this, that experience has proven the circular to be a safer operation than the flap, in all cases save at the upper third of the thigh; that there is less danger of secondary hemorrhage; that eventually, the flap operation, when successful, is reduced to the circular, inasmuch as little remains but an integumentary stump in both.

I have seen two flap amputations performed upon the same thigh, and by two clever surgeons; both terminated in a conical stump and proved unsuccessful. I cannot affirm that the circular operation in this case would have given a different result, but I have reason to think it would.

A sufficiency of skin, not of muscle, is the requisite for a good stump; and this does not always obtain after the retraction and suppuration of a large muscular flap. I have performed the integumentary or circular operation many times, upon all parts of the extremities except the upper third of the thigh, and lower third of the forearm, and, without a single exception, successfully.

The operation of Professor Syme, which I recommended, and which was practiced in the following case, he thus describes:—

"The compress of the tourniquet should be applied over the artery close to the groin. Instead of the old-fashioned concave edged, thick-backed amputating knife, a middle-sized one of the kind employed for the flap operation, will be found more convenient. The incision of the skin should be made as near the knee as possible, not in a circular direction, but so as to form two semi-lunar edges, which may meet together in a line from side to side, without projecting at the corners. The fascia should be divided along with the integuments, which are thus more easily retracted—not by dissecting and turning them back, but by steadily drawing them upwards, through means of the assistant's hands firmly clasping the limb. This should be done to the extent of at least two inches, or more, if the thigh is unusually thick. The muscles are then to be divided as high as they have been exposed, by a circular sweep of the knife, directly down to the bone, from which they must be separated and retracted with the utmost care. In ordinary circumstances, the retraction should not be less than two inches, and, before using the saw, the bone must be completely exposed by means of a cloth split up the middle, applied on each side of it, and forcibly held up."

Case.—Mr. Wm. Hart, aged 48, Boatswain U.S. Navy, received a simple fracture of the right leg, in upper and lower thirds, some fifteen years ago. In attempting to rise from the deck he fell with much force upon the knee of the injured limb. Within the usual time, the patient being a healthy man, and free from all scrofulous disposition, the bones were reunited, and he was enabled to pursue his usual duty in the Charlestown Navy Yard. But in the course of a year, the knee upon which he fell began to be painful and swollen. All means were unavailingly employed to abate the pain; and bandages, splints, and rest, were equally useless in the endeavour to produce a cure; or cause anchylosis of the joint. Contraction of the tendons of the knee took place, and for the last five years the extremity

has been carried at an angle of 100° with the thigh. A consultation of surgeons having determined the necessity of amputation, I proceeded to the operation on the 27th of April last, in presence of, and assisted by, Drs. Cheever, Oliver, and Boardman of Portsmouth. The patient desired that chloroform should be administered, and it was accordingly inhaled through a sponge, under the direction of Mr. Preston.

I would here remark, that, expecting the speedy action of the chloroform, I had applied and tightened the tourniquet previous to the inhalation. I should not do so again. I would merely buckle the strap and not impede circulation till insensibility was produced. The first few inhalations caused spasms and convulsions, which, however, were easily commanded by the assistants—the patient not being otherwise secured—and it was full four minutes before that stertorous quietude was obtained sufficient to commence the operation. This length of time completely filled the veins of the extremity: and though the hemorrhage was not great, yet it was more than the reduced state of the patient rendered desirable, and double what it would have been had the tourniquet not been tightened till the moment of cutting. The unnecessary loss of blood is an object not to be lost sight of, especially in secondary amputation, where the system is generally very much reduced.

The thigh being very thick, retraction to the extent of three inches was made by dissection, the fascia being so bound down to the muscles by the action of years of bandaging, that it was impossible for the hands of the assistant to retract alone. The skin was not turned back.

Immediately after the first deep incision, the femoral artery was secured by a ligature, and then the muscles carefully separated from the bone to the height of two and one-half inches. The whole operation only occupied six minutes, which, as respects time, will compare favourably with most of the flap amputations. The amount of chloroform consumed was about three drachms, inhaled interruptedly, to prevent the possibility of asphyxia. Yet even with this caution (and the amount of chloroform used was indispensable to produce the desired effect, say two drachms actually inhaled), the patient became nearly pulseless. The stimulus of brandy, however, as soon as it could be swallowed, restored him to partial consciousness in a few minutes.

His perception of objects and hearing remained, to a certain extent, during the operation; but with a total insensibility to pain, and a complete ignorance, for twenty minutes after, that such operation had been performed. The divided arteries seemed little disposed to bleed; and I must here add my testimony to that of others, of the scarcely perceptible difference in colour between the arterial and venous blood. Only four ligatures were required. To secure adhesion by the first intention, I consider the removal of all coagula by a sponge wetted with *cold* water, the best means. A temporary constriction of the small vessels is thus produced till the parts are

coaptated—no space is then left for coagula, and, consequently, the chance of suppuration is much lessened. Adhesive straps only were applied to the stump, and the patient removed to bed.

Very slight vomiting took place in bed, once only, and for a few seconds—and then all the faculties were gradually restored, and a painless, quiet lassitude obtained. Dissection of the joint proved the necessity of its loss; the cartilage, and much of the cancellated structure of the external condyle having been absorbed. The night succeeding the operation had been the most painless one passed for years.

The straps were replaced on the eighth day; no bandage applied; ligatures all removed by the twenty-first day, and on the thirty-fifth day, the patient was walking about his house, with a stump completely healed, except at one small point in the centre.

Only for a day or two, and from irregularity of diet, did any topical application become necessary, and then an evaporating lotion of rum and water reduced the heat to the natural standard. From the seventh week of the operation, the patient has been daily walking the streets in the enjoyment of the most perfect health.

Remarks.—There are two things which I wish to impress by this case—1st, the superiority of Syme's method over every other in amputation of the lower third of the thigh, and the almost certainty, by this mode, of preventing that disgrace to surgery, a conical stump. 2d, the great caution necessary to be used in the administration of chloroform in a large quantity, so as to prevent asphyxia, and this is best avoided by inhaling it interruptedly, and always through a sponge, for the proper admixture of air.

Whilst on the subject of amputation, I may remark that, of late, I have had occasion to amputate many fingers and toes, and I find by experience that (particularly when the flap is made from the plantar or palmar face of the limb) the best mode of union is caused by the interrupted suture.—Three sutures for the great toe, and two for any of the others, will suffice. I leave them in for ten days or a fortnight; they rarely ulcerate through, on account of the thickness of the skin, and they produce an adaptation of parts seldom accomplished by the sticking-plaster and bandage alone.

Castration of enlarged and irritable testicle.—Captain Thomas T., aged 59, had undergone the palliative operation for hydrocele of the tunica vaginalis of the right side, some eighteen months ago. He had neglected to follow the advice of his careful surgeon, and take the necessary rest for a short time. In consequence of his imprudence, inflammation and pain quickly followed, the scrotum increased in size, became pyriform in shape, had constantly to be triced up in a handkerchief, and altogether, both at sea and on shore, as he expressed it, his life was perfectly miserable. I was called to see him on the 14th of May last, and requested to bring with me the necessary instruments for tapping the scrotum.

I found him in bed, where he had been for weeks, and with that peculiar countenance so expressive of great suffering. External applications, and opiates in large doses, had been used, without, in any material degree, abating the pain. Upon examination, I found the right side of the scrotum greatly distended, and, in addition, a large inguinal hernia of same side, for which he had never worn a truss. The intestine was easily returned without diminishing the size of the scrotum, and the spermatic cord, at the abdominal ring, was found to be of nearly the natural size and feeling.

The scrotum was very large—skin smoothly distended, apparently transparent in places, with a slight sense of fluctuation; but the outline of the testicle could not be easily traced. The whole tumour wanted the density and flatness of a diseased testicle. I was greatly embarrassed in my diagnosis. Judging *à priori*, the man had hydrocele; but taking into consideration the great pain and constitutional disturbance, there must be a diseased testis. I stated my doubts, and suggested the propriety of introducing a small exploring trocar. This was done, and not one drop of fluid escaped! Thus was the true state of affairs at once made known, and without causing any noticeable pain. Some there are who may blame my diagnostic discrimination in not arriving upon sight at a just conclusion.—To those I may remark that surgeons, like other men, differ in tact; and are not equally happy in the correctness of their deductions.

Sir Astley Cooper, when in Paris, had been requested by M. Roux to give his opinion, before the medical class, upon the case then on the operating table. It was one of enlarged scrotum. Sir Astley, after a careful examination, pronounced it scirrhous testicle, and declared the necessity of extirpation. Whereupon the wily Frenchman shoved a lancet into the bag, and the scirrhous testicle, to the amazement of Sir Astley, ran out in a limpid stream! In this instance we are bound to admire M. Roux's diagnosis, rather than his politeness. But the case exemplifies this, that a surgeon, however eminent, may sometimes be mistaken.

I advised the necessity of extirpating *this* testicle from the fact of its being so exceedingly painful—the cord being small, and free from knots, and the surface, to the touch, so smooth, and free fromtuberculation. Accordingly, on the 16th of May, two days after the exploration, I proceeded to extirpate the testicle, assisted by Dr. Cheever, of Portsmouth.

The hair having been shaved off, an incision was made from the external abdominal ring, to the inferior part of the scrotum, in length seven inches. Careful dissection was here necessary, as the action of the abdominal muscles had forced the intestine into the opening. Instead of separating the blood-vessels from the vas deferens, and then tying them, it was found more convenient to cut half-way through the cord, secure the arteries, and then finish the incision. This proceeding is the quickest; and as no contraction can take place till the arteries are secured, and the cord severed, I consider it the best.

The testicle was then carefully dissected out from the scrotum, and the artery of the septum and a few other small ones secured. Not more than four ounces of blood were lost during the operation. Four sutures were passed through the lips of the wound, which was then lightly dressed with a pledget of lint. Not the slightest secondary hemorrhage occurred, and the only disagreeable symptom was retention of urine for thirty hours after the operation. I had not seen the patient in the mean time, but upon my arrival introduced the catheter, and drew off three pints of urine. From this time forward, not one bad symptom occurred. Adhesion by the first intention, took place over the greater part of the surface, the ligatures came away in seventeen days, and in four weeks from the operation, the parts were entirely healed and complete health restored. Capt. T. never had either gonorrhœa or venereal; neither was he affected by stricture. The body of the testicle contained about three ounces of bloody pus, which in a short time must have found its way to the surface, and caused abscesses. Otherwise, except in density and size, it was apparently natural. Could the contained fluid in the body of the testicle have given, through its thickened walls, the sense of fluctuation, which was perceived upon the first examination? This case goes to show, that even so plain an affair as hydrocele and enlarged testicle may be compounded.

In cases of highly irritable testicle, all palliatives have been, eventually, found useless: and nothing in such cases will succeed but extirpation. Why then hesitate to recommend orchotomy, in preference to years of indescribable suffering? The procreative faculty has been found equally active with a testis, as with testes; a fact strongly exemplified some years ago, in the case of an employé in this Navy Yard. The remaining testis of Capt. T. is in as good condition as could be expected from a man of his age. It was proposed to give him chloroform; which he refused, being of a very resolute disposition: he is now at sea, in command of his own vessel.

Case of congenital glossocele, or hypertrophied tongue.—Miss Sarah Fernald, aged twenty, a native of Kittery Point, Maine, was born with her tongue protruding from her mouth. It had literally grown with her growth, and strengthened with her strength, until it became a constant nuisance to herself and a disgusting sight to the beholder. She is a finely formed, sprightly, and intelligent girl; has never had any disease save this of the tongue, and a scrofulous ulcer of the sub-maxillary gland, which discharged for some time, and then healed spontaneously. The legend her mother relates is, that when some seven months advanced with this child, she longed for pomegranates, which she had never seen except in a picture, and which desire continued with her till the birth of Sarah. Irreconcilable as it is with common reasoning, and incomprehensible, according to our present knowledge of the power of the mother's mind over the fœtus in utero,

yet we cannot deny the fact, that strange impressions are made through the medium of the mother's fancy upon the unborn infant. The tongue of Sarah did, through infancy, and until amputation, retain the appearance of an open pomegranate,—the enlarged and diseased papillæ closely resembling the seeds of that fruit. I was requested to examine the case, with reference to the feasibility of an operation. I found, as I have described, a handsome intelligent girl, with a tongue protruding (from upper teeth to apex) a little over four inches, circumference seven inches, and thickness at middle of tongue, two inches—indeed the tongue was of nearly the same thickness from root to apex. A deep linear fissure occupied the dorsum of the tongue in its whole length. The protruded portion was quite dark, owing to the number of vesicles filled with blood; and the part in the cavity of the mouth was also covered with these vesicles, and enlarged papillæ,—but in a lesser degree. The substance of the tongue was extremely hard, and scarcely susceptible of pain: and was constantly pouring out a profuse, viscid, and offensive exudation. The tongue could not be retained in the mouth except for a moment; as its intrusion filled the whole cavity of the fauces, and prevented respiration.

The inferior maxillary bone was natural in form, except at the symphysis, where the incisors and canine teeth were separated half an inch, and inclined outwards by the constant pressure and weight of the tongue. The lower teeth were covered with tartar, and rather loose in their sockets, and the lower lip everted on the chin.

She had never been able to masticate with her tongue in the mouth, and consequently lived mostly upon fluids. She was subject to painful periodical swellings of the tongue, every six weeks or two months, during which time she would almost reach the point of starvation, from absolute impossibility to swallow any nourishment for a number of days. During these periodical turns (which had no connection with the menstrual discharge, the latter being always regular) profuse hemorrhage would sometimes take place from the tongue, which at these times looked, as she expressed it, as black as my hat. She could make herself understood, though her words were very thick, and given with a lisping utterance. My advice was requested in this painful case, with the promise that it would be acceded to in all things. I was prepared for such a contingency, by a knowledge of the operation, and success of my former preceptor, Dr. Thos. Harris of the U. S. Navy, now chief of the Bureau of Medicine and Surgery, Washington. A description, with a plate of Dr. Harris' case, may be found in the seventh volume of the *American Journal of the Medical Sciences*, Oct. number, 1830.* The similarity in both cases is remarkable; the prin-

* On the 26th of May, 1835, another operation, similar to the one here mentioned, was performed by Dr. Harris upon the tongue of a young man, aged nineteen, from Tennessee, who had been induced to apply for relief, from having heard of the success of

cipal difference exists in the one being a congenital disease, the other not. The plate of Dr. Harris completely represents the tongue of my patient, save the tartaric deposit: in other respects they are alike;—with a balance in favor of Miss Fernald, on the score of youth and beauty.

I decided upon amputation, recollecting the difficulties Dr. Harris encountered, in his attempt at strangulation by ligature, and his failure so to do. Also, his urgent advice to avoid, by amputation, a painful and fruitless proceeding.

On the 30th of May last, assisted by Dr. Oliver, of Portsmouth, I operated in the following manner:—The patient being seated in a chair, her head supported by one assistant, and hands secured by others, I forcibly drew the tongue outwards and downwards by a strong forceps, commenced a Λ incision with a bistoury on the left side, carried it to the median line a little inside of the upper incisors, turned and cut outwards.

Thus, with two strokes excising the part, which was of great density and hardness. A formidable jet of blood immediately issued from the dorsal and ranine arteries, which were, of course, preternaturally enlarged.

I tried to control the hemorrhage by torsion, which failed, as the arteries were so impacted in the surrounding substance that I could not draw them out. Compression was quite as unsuccessful; dossils of lint, wetted with iced alum water, were no better, and so I proceeded to tie the dorsal and ranine arteries, which I did without trouble, and thus effectually stopped the hemorrhage.

The patient all this time suffered so little pain, that the moment the arteries were secured she jumped up and ran to the mirror, to see the effect of the operation. The ligatures were cut off close to the knot, hoping that in their course outward the suppuration might tend to lessen the great thickness of the tongue.

The flaps were now brought together, (the coagula having been carefully removed with iced alum water,) and secured with four interrupted sutures. When this was done, the tongue was of good shape, and no point of cut surface remained exposed. Length of tongue removed, two inches and three-quarters. For nine hours after the operation the tongue remained within the mouth; inflammation and swelling then set in and protruded it. The only dressing applied was a dossil of lint, wetted with ice water. There was no secondary hemorrhage. On the sixth day three of the

the first case. In this patient, the enlargement was congenital;—the tongue projected beyond the upper incisors, three inches—circumference six inches—vertical thickness, one inch and a-half,—of a violet colour, hard and incompressible consistence, and covered with a dark slimy secretion. The deformity was so great, that he was obliged to wear constantly a silk handkerchief over his mouth, and around his neck.

The result of the operation was complete; and the gentleman subsequently became a practitioner of medicine, in his native state. The details of this case, with descriptive plate, may be found in vol. 20th, *American Journal of the Medical Sciences*, 1837.

sutures were removed, and on the twentieth, complete union had taken place by the first intention. The turn of periodical inflammation had come round by this time, and the tongue became slightly swollen, and the sub-maxillary gland of the left side very much so. The application of half a dozen leeches with saline purging quickly subdued this attack. The patient had been put upon the tinct. of iodine, and it was continued with benefit.

On the 5th inst., Miss Fernald, for the first time in her life, chewed with the tongue in the mouth. It is now kept within the teeth, like any normal tongue, and protruded with slight difficulty. The exudation is very trifling—not sufficient to afford the slightest inconvenience, and altogether deprived of unpleasant odour. On the 10th inst. I had occasion to remove the lower incisor teeth, their horizontal projection having caused ulcers in the lower lip, which has now assumed its natural position, and completely closes the mouth. On the 25th of July Miss Fernald paid me a visit at the Navy Yard, and I take pleasure in saying, that a more comely looking girl, or one better pleased with her own altered condition, can rarely be found.

The fear of hemorrhage has deterred surgeons from amputating any considerable portion of the tongue. The recorded case of Dr. Harris, and the present one, are the only operations of the kind that I have any knowledge of, in the United States.

The tongue may be operated upon with as much safety as any other organ in the body, and its great vascularity ensures a more speedy union. But no operation by ligature should be attempted. The knife alone is to be relied upon, and the arteries being secured, and parts adjusted, as in the Λ incision, very little need be feared from secondary hemorrhage.

In confirmation of the above opinion, I may be permitted, briefly, to detail the following case:—

In October, 1845, I was attached to the U. S. sloop-of-war Saratoga. We were then lying at anchor, off the Island of Sacrificios, at Vera Cruz. At sun-set, on the approach of a norther, all hands were engaged in sending down top-gallant masts, striking top-masts, &c. Midshipman Joseph F. was stationed on the poop, and whilst standing at the taffrail, and looking aloft, the spindle of the mizen lightning rod, weighing some five pounds, came down by the run, the point of it striking Mr. F. on the left upper lip, carrying away the left upper incisor and canine teeth, fracturing slightly the superior maxilla, passing obliquely through the middle of the tongue, and the middle of the right sub-maxillary gland, and after grazing the sheath of the carotid, protruding some four inches through the skin, over the sterno-mastoideus, three inches below the angle of the jaw. Of course he was felled to the deck, and it required much force to withdraw the spindle. Immediately upon effecting this, a rush of blood took place from the wound;

but my assistant, that very clever young surgeon, Dr. Bernard Henry, who was standing alongside of Mr. F. at the time of the accident, applied pressure to the neck with his fingers, and had him conveyed to the cabin. The hemorrhage was considerable; but it was evident, in a moment, that the carotid was intact, and that the superior labial, dorsal artery of the tongue, sub-lingual, and probably a branch of the superior thyroid, were the principal arteries involved. The cut surface of the upper lip being smooth, was closed by sutures. The spindle had rather a sharp point, which was coated with platina. Cold acidulous drinks were given, and perfect quietude in the horizontal position enjoined.

The teeth were never found: the tongue had the appearance of having one of them embedded in its centre, but it could not be felt. For two days there had been free bleeding from the mouth, and lower orifice on the neck; and styptic applications, without pressure, were the only means admissible. We were ready at any moment, if requisite, to tie the common carotid, below the superior thyroid; but after forty-eight hours, the bleeding, in a great measure, ceased. The period of sloughing was watched with some anxiety, but it passed by without hemorrhage: and in the course of four weeks, the patient was about decks again, the wounds all having healed, and with a scarcely perceptible scar upon the upper lip. The middle of the tongue remained enlarged; and whether from this cause, or injury of the sub-lingual nerve, there was a slight impediment in the speech, for a few weeks. Had the arteries of the tongue only been involved in the injury, I should not have hesitated to pass a strong curved needle with a ligature, through that body, and thus command the hemorrhage:—so little danger is there, in my opinion, in operations upon this organ. To the untiring attention of assistant-surgeon Henry was the patient mainly indebted for his speedy and happy recovery.

Navy Yard, *Portsmouth, N. H., July*, 1848.

Art. III.—*Extracts from the Records of the Boston Society for Medical Improvement.* By Samuel Parkman, M. D., Secretary.

Jan. 24th, 1848.—*Hydrocephalic Child.*—Dr. Storer presented two drawings for the cabinet, and read the following account of the case with measurements, &c. The child was examined at Brighton October 29th, 1847. It was then five years and six months old. It died about a fortnight since, being about five years and nine months old.

Its head measured as follows:—

Circumference, 27¾ inches; from centres of meatus auditorii, 17¾ in.; from base of nose to occipital ridge 19 in.; from base of nose to hair on

forehead, $3\frac{3}{4}$ in.; from meatus to posterior fontanelle, $5\frac{1}{2}$ in.; from forehead to occiput, $10\frac{3}{4}$ in.; greatest transverse width, $7\frac{1}{2}$ in.; from meatus to frontal protuberance of the same side, $4\frac{15}{16}$ in.; space between internal canthi $1\frac{3}{4}$ in.; weight of head $10\frac{1}{2}$ lbs.; of body, including head, $22\frac{1}{2}$ lbs.; fontanelles nearly ossified.

The *head* was large at birth, and increased rapidly during the first six months. The growth of the body has been very slow; the muscles of the extremities are attenuated and feeble; he has never been able to bear his own weight; when a year old he crept; but he makes no effort to move now; he either sits upon the floor or is supported in a chair.

He is easily frightened; has had frequent falls with injury to the head. When fourteen months old he had two convulsions, supposed owing to indigestible food, and has since frequently appeared as if about to have a recurrence of the fits. Had no increased difficulty while teething; had *chicken-pox* and *whooping-cough* the same winter without any particular trouble. The appetite has always been good, and he has eaten as much as common children. The sleep is good, and he uniformly wakes early in the morning, and seems cheerful and happy. Although the evacuations have not passed involuntarily, yet, for the most part, they have occurred without giving warning, resembling infants in this respect. The urine has always been passed in bed, and has sometimes been immoderate in quantity.

Tapping in Hydrocephalus.—Dr. S. Parkman had performed this operation five times at intervals of a week in a child six months of age, drawing off about ten ounces of fluid each time; the punctures were made at the anterior fontanelle, on the side of the median line, and the instrument, a fine trochar, entered about two inches. The head measured twenty inches in circumference, and the fontanelles were large and bulging. The child was comatose; occasionally moaning; pupils dilated and insensible without strabismus. Pulse small and feeble; appetite as usual, and bowels inclined to costiveness. After each tapping, the head was carefully strapped with adhesive plaster, and the child aroused in a very marked manner. The fluid, however, rapidly regenerated each time, and death occurred after the fifth tapping, without any change of symptoms. At the autopsy the convolutions were found flattened, and the cerebral substance about half an inch thick; the ventricular cavities contained a pint of clear fluid. No signs of inflammation produced by the operations.

Drawings and Daguerreotype views of Intestines, consequent upon the Diarrhœa following British Typhus, as seen in Boston.—Dr. Bowditch exhibited these, the property of Dr. Upham, who had caused them to be executed, the former by Mr. Leagur, the artist; the latter, by Mr. Whipple. The appearances were remarkably well shown in both cases. The

appearances were a vivid redness of the upper portion of the small intestine, and the mucous membrane near the ileo-cæcal valve was thrown into large elevated transverse rugæ of a mottled red and dark or dirty white colour. Some of these rugæ (in the original specimens) were three or four lines high and one thick. The intervals were paler; but the whole of the membrane had lost its wonted polish. Peyer's patches were seen perfectly healthy, making depressions in the rugæ. The large intestines were greatly discoloured, and the mucous membranes thickened, and in parts ulcerated. The isolated glands were very distinct in the plates. Dr. Upham had noticed, among the emigrants convalescing from typhus, a disposition to diarrhœa, with slimy, but rarely bloody discharges; at times relieved, usually only temporarily so, generally returning with increased severity, and almost universally fatal. This symptom commenced ten or twelve days after convalescence, usually traceable to some dietetic error. Death took place usually from one to two months after the diarrhœa began, and, on examination, the above appearances, or others wholly similar, were universally observed.

Feb. 14th.—Spontaneous Laceration of the Pericardiac Aorta.—Dr. J. B. S. Jackson exhibited the specimen from a patient of Dr. Catling, of Roxbury, associate member of the society. A man, sixty years of age, of healthy appearance, but rather dyspeptic, ate heartily of ham at breakfast, to which he was not accustomed, and again at noon. In the evening he complained of nausea and faintness, and by Dr. C.'s advice took an emetic. The pulse was noted as rather small. Nothing unusual occurred during the first part of the night; but about two, his wife was awakened by his oppressed breathing, and he soon died.

On dissection, the cavity of the pericardium contained about six ounces of fluid and coagulated blood. The aorta, which was shown to the society, presented a laceration about half way between the valves and the arch, extending through the entire thickness of the vessel, and in a spiral direction, so as to involve more than its circumference. The pericardium was stripped up from the anterior face of the aorta, forming a large cavity filled with blood, and which had finally burst. In regard to structure the ascending aorta was almost perfectly healthy, and the descending portion was but moderately diseased. The edges of the laceration were nearly as smooth as if cut with a knife. The heart and other organs were healthy.

Colloid Cancer of the Stomach.—Dr. J. B. S. Jackson presented the specimen from a patient of Dr. H. Storer, a short, fat, healthy looking woman, of forty-five years of age. The antecedents were dyspeptic feelings for a year; frequent vomiting, with distress at stomach, and loss of appetite for five or six weeks—two weeks before death. Dr. S. being consulted, discovered epigastric tumour. The appearance of health was

preserved to the last, and the patient was out as usual within a month of her decease.

The stomach, which was presented to the society, and is in the cabinet, showed the appearances of colloid cancer very well marked, involving the entire circumference of the pyloric portion to the extent of four or five inches, and encroaching slightly upon the duodenum. The mucous membrane was first affected, and afterwards the muscular, the sub-mucous cellular tissue being but little implicated; the maximum thickness was two-thirds of an inch; the surface was ulcerated to but a slight extent. From the anterior face of the stomach there projected externally a mass of the same disease of considerable size, and from the posterior face a similar one, but smaller. Two or three other small masses were also seen in the substance of the organ near the small curvature, and in the omentum near the large curvature were traces of the disease. The stomach was large and the mucous membrane in the portion not diseased, presented a uniform redness without other change. All the other organs were perfectly free from malignant disease.

28*th.*—*Rupture of the Aorta.*—The specimen was presented by Dr. Jackson, who gave the account of the case as follows:—A man, fifty-six years of age, and enjoying good health, was out of town on Tuesday afternoon, returning in the evening, and supping about 9 P. M. Soon after, he was seized with pain at the epigastrium, extending through to spine. During the night there were vomiting and inability to lie down. In the morning Dr. Gay saw him, and prescribed opiates with some relief. The pain continued during the day, which was passed without lying down, and he died at 4½ P. M. At the autopsy about two or three ounces of blood were found in the pericardium, and the aorta was ruptured in about two-thirds of its circumference just above the valves. The internal coats of the artery having given way, the blood had dissected a passage for itself until it finally reached the internal iliacs, where perforation of the inner coat again took place upon the right side, and the blood returned into its former channel; the branches from the arch were also dissected. This dissection involved mostly the posterior parietes of the aorta, and nearly or quite one-half of its circumference, the fibres of the middle arch being seen upon both surfaces along the false passage. The tissues of artery were nowhere much diseased, and apparently perfectly healthy at the place of rupture, except an appearance as of an old laceration, which had been cicatrized just above the valves.

Apparent Conjunction of Cancer and Tubercle in the same Organ—the Testicle.—Dr. Jackson presented the specimen removed by Dr. S. Parkman at the Hospital. A married man, thirty years of age, eighteen months since first noticed a swelling of the right testis, which has gra-

dually and without pain attained the present size, that, say, of two oranges. Six weeks since, in the country, it was punctured under the idea of its being a hydrocele, which it much resembled in shape. Since then a little pus had been squeezed out each day at the opening. The integuments were tense, with several enlarged veins, and non-adherent except at the point of puncture—from which a drop or two of pus exuded, of the character usually styled scrofulous. The size of the tumour, the enlarged veins, the non-adhesion of the integuments, and the peculiarly elastic feeling suggested malignant disease; but the scrofulous pus seemed clearly to indicate tubercular deposition. The organ exhibited showed the whole of the testicle to be the seat of a tubercular abscess, which had destroyed nearly the whole tissue, while the epididymis showed well marked encephaloid disease. Dr. Parkman had examined both these tissues microscopically, and found in the latter a well marked stroma, and the irregular nucleated cells as signs of malignant disease; in the former the microscopic appearances were not perfectly conclusive as regards the disease being tubercular. Dr. Jackson spoke of this yellow, opaque, tuberculoid formation, as he called it, as being not at all uncommon in otherwise well characterized encephaloid masses.

March 13th. Arm presentation—delivery effected with the aid of Etherization.—Dr. Channing within three weeks had seen three cases. In the first, the cord and hand were in the vagina. Chloroform was administered, a foot reached, and the child was born alive. In the second, labour had continued four days, and the child had been dead some time. Ether was employed, and turning effected, and the mother did well. In the third, Dr. C. saw the woman on the fifth day, as reported by the attendants—the child was dead, and the arm enormously swollen. Etherization was effected; amputation at the shoulder and evisceration practised, and the mother did well. In all three, the advantages of the anæsthetic state were well marked, both in the facility it afforded to the operator, and the prevention of suffering for the mother.

27th. Paralysis of Long Thoracic Nerve.—Dr. Bowditch exhibited the subject, a man twenty years of age. The antecedents were typhoid fever in November, convalescense from which was rather tardy. The deafness was considerable, which still continues slightly. During convalescence, he observed the right arm weaker than the other, especially in all the motions requiring its raising. He commenced work, that of a soap stone cutter, about ten days since, when one of his companions noticed an unusual prominence of the shoulder-blade. The phenomena at present, and as exhibited to the Society, are:—a very slight projection of the base of right scapula from the side of the chest. When the arm is raised forwards, this projection increases in a very extraordinary degree, the base of

the scapula forming a high ridge, admitting the fingers to be passed quite into the fossa subscapularis. The arm cannot be raised above a right angle. The serratus magnus anticus was evidently the paralyzed muscle.—When the scapula is supported behind by the hand of another, the arm can be readily raised by the patient. There is no other paralysis, or affection of the nerves of special sense, save the slight deafness already mentioned. General health good. A mechanical support and electricity were suggested as treatment.

April 10th. Ovum blighted and retained for a long time.—Dr. Jackson presented the specimen from a patient of Dr. Putnam. A healthy woman, mother of nine children, supposed herself to have conceived in November. All the symptoms of pregnancy were not present, however, and the existence of this condition remained uncertain, until abortion took place, about a week since. The fœtus which was exhibited was about the size of a fly. The point of interest, Dr. J. remarked, was the retention of the ovum so long after its blight, of which there have been several instances presented to the Society, though such cases are not described by obstetric writers, so far as he is aware.

Very large bodies successfully removed from knee-joints.—Dr. Stedman presented the specimens to be placed in the cabinet. The patient was a man, forty-three years of age, confined in the House of Correction as a common drunkard. At the age of seventeen he began to have swelling of the knees, with severe and constant pain, without any known cause. This continued for about three years, when he first discovered a movable tumour in right knee, just above patella, which has continued to increase till the present time. A similar tumour soon after appeared in the left knee. These tumours have had the effect to impede walking, he being often suddenly seized with pain in the knee, and inability to move further, the tumours being always perceptible at these times. These tumours have increased with his age. Dr. S. operated upon the right knee March 22d, and on the left, April 1st. In both cases, the bodies were brought to the outside of knee, and being maintained there, the skin over them was drawn to one side, in order that the wound of the capsule of the joint might not be parallel with that of the surface, and an incision made upon them, by which they were at once set free. The wounds were united by the ethereal solution of gun-cotton, and there was not the slightest inflammatory action. At the expiration of his sentence, the patient walked with perfect ease.

The bodies were composed of fibrous and osseous tissue, in about equal proportion.

The first removed weighed - - - - -	283 grs.
2d " " - - - - - -	257 "

The length of the first was			-	-	-		$2\frac{1}{16}$	inch.
width	"	"	-	-	-	-	$1\frac{7}{16}$	"
thickness	"	"	-	-	-	-	$\frac{8}{8}$	"
The length of the second was			-	-	-		$2\frac{3}{8}$	inch.
width	"	"	-	-	-	-	$1\frac{1}{16}$	"
thickness	"	"	-	-	-		$\frac{9}{16}$	"

Trepanning of the inferior Maxillary Bone, and removal of a piece of the nerve of the same name.—Dr. Mason Warren related a case in which an operation had lately been performed by Dr. J. C. Warren, on a patient who had suffered the most excruciating torture from neuralgia, without any relief from long-continued and various modes of treatment. Since the operation there had been no return of the paroxysms. The bit of bone, marked with the groove for the passage of the nerve, was exhibited.

Effusion into pleural cavities suddenly fatal after scarlet fever.—Dr. C. E. Ware had attended a child, four or five years of age, with mild scarlet fever, from which the convalescence was good. A week after his discontinuance of visits, he was recalled, and found general anasarca. Under the use of diuretics, as uva ursi, this disappeared, and quinine had been prescribed and taken one day.

The next morning, the child was well enough to be playing about the house, but was observed to have a little shortness of breath, which gradually increased towards the latter part of the day, unaccompanied by any other symptoms. After taking a light supper, the dyspnœa became rapidly worse, and the child died in about four hours, from a gradually increasing suffocation. Percussion of both backs gave a dull sound, and there was absence of the respiratory murmur. Dr. W. diagnosed rapid dropsy of the pleural cavities. A similar case had occurred in his practice a year or two since.

Polypus of the Intestine.—Intussusception.—Dr. J. B. S. Jackson exhibited the specimen from a patient of Dr. C. Wild of Brookline, a female of seventy-five years of age. Although the bowels were habitually regular, she had taken aloetic pills twice, during the three weeks prior to her disease, on account of vertigo, &c.; these had operated mildly, and on a Sunday, she took the same for the third time; on Monday she had three discharges, and with the third, while in the privy, was seized with severe pain in the region of the cæcum. Dr. W. being called, discovered a tumour in the seat of the pain, tenderness about the umbilicus, with tympanitis in that region, and a contraction along the arch of the colon. The pain was relieved by an enema, and returned only once, and that but for a short time; there was a little nausea on Tuesday; she continued much prostrated until Friday, and then died. During these five days, large ene-

mata, several ounces of castor-oil, and one day five drops of croton oil were administered; the enemata were generally followed by discharges of bloody water; there was no fecal dejection after Monday, and no tenesmus except after the enemata. The tumour continued until death.

The specimen showed a polypus the size of the thumb, in the small intestine,—three feet from the cæcal valve, attached by a short pedicle; the invagination commenced here, and the polypus protruded into the large intestine three inches beyond the valve, and the whole was closely impacted —much swollen and infiltrated with serum and blood, and of a deep red colour. Above the invagination, the intestine contained a great quantity of liquid, and some oil; and below it was proportionately contracted.

Statistics of Cancer.—Dr. L. Parkman gave the result of the examination of the Hospital Records upon this subject. It appeared, that in 1847 there had been twenty-four operations for cancer,—four times as many as in any year since 1822, when the hospital was opened. This was in a considerable degree to be attributed to patients being attracted by the advantages to be obtained from etherization. Of cancer of the breast, there had been seventy-five cases since the opening of the hospital, and five of these had died: two of erysipelas, and three of internal disease, which existed at the time of operation, and should have precluded it. The results as regards the future state of patients, could not be known: the only fact shown was, that the operation was not a dangerous one.

24*th. Ovarian Cyst.*—Dr. J. B. S. Jackson presented the specimen from a patient of Dr. Thaxter, of Dorchester, a lady fifty years of age, married at forty, and who had had one child. The disease was of about four years' duration, and nearly six hundred pounds of fluid had been drawn off at different times,—sixty-four pounds even at one operation; the fluid was colourless and glutinous. The chief suffering was from distension, and the patient gradually sunk under the disease. The diseased mass, as shown to the Society, consists of one very large, dense, whitish cyst, with numerous smaller growths. These latter varied from one to five inches in diameter, and are of a regular rounded form, some being pedunculated, and others attached by a hard base to the interior of the large cyst. On being cut through they seem to consist, mainly, of an extremely viscid, gelatiniform substance, nearly, or quite transparent; mostly colourless, though in some of the masses deeply tinged with blood, and in a few of them is seen a soft, yellowish, opaque deposit; this is contained in a coarse lax cellular tissue, and surrounded by a membrane that is easily ruptured; no appearance of encephaloid disease. The uterus is much elongated, especially upon the side corresponding to the cyst, as so often happens in this disease. Right ovary healthy.

Congenital Abscess of Lachrymal Sac.—Dr. Bethune has observed this in a child, existing from its birth. He supposed it dependent upon malformation of the passage. A style was passed, though it was uncertain whether it did not pass by the os unguis. Dr. B. did not find similar cases recorded, except one by Berârd, of a congenital fistula of the sac.

May 8th.—Imperforate Rectum.—Dr. S. Parkman was called to the child fifty-two hours after birth, a male, born under the care of a midwife. No stools had passed; the abdomen was greatly distended and tympanitic, and the superficial veins much distended; there was constant vomiting of a thin yellow fluid. The anus was well formed and admitted the finger about half an inch. No protrusion, however, was felt. A trocar, and afterwards a sharp-pointed bistoury were passed up about an inch and a half in the direction of, but without reaching, the gut. The child died a few hours after. The specimen, which was exhibited, showed the rectum enormously enlarged, this being the consequence of its formation, and not the result of distension, as the sigmoid flexure terminated in it of the natural size. The rectum terminated in a blind pouch more than an inch distant from the small portion connected with the anus. Only loose cellular tissue intervened between the two portions. The specimen is in the cabinet.

June 26th.—Encephaloid Tumour from Labium Pudendi Externum.—Dr. J. B. S. Jackson presented the specimen removed by Dr. Lewis. It is a perfect example of the disease, two inches in diameter and well defined. The patient is a respectable married woman, forty-three years of age. At the age of eighteen she had a disease in the left groin near the labium, which was removed a year afterwards. At the age of twenty-eight the disease reappeared, and was again removed. As the result of these operations a scar now remains about three inches in diameter and surrounded by warty excrescences, which are said occasionally to disappear. No warts upon the labia as in elephantiasis. The encephaloid mass exhibited was first noticed six months since, and has grown rapidly with an occasional twinge, but scarcely any pain; before the operation it was fleshy to the touch; of a rounded form; movable and situated just beneath the skin, which was not adherent, and but slightly abraded in one point; there was scarcely any discoloration.

Chronic Ulcer of the Stomach; Hemorrhage from the Splenic Artery.—Dr. J. B. S. Jackson presented the specimen sent by Dr. S. Salisbury, of Medway, and taken from a man, who for three years had suffered from pain referred to the right hypochondrium, and which, during the last year from its increase, had incapacitated him from business. Six weeks before death there had been a copious hæmatemesis, and this had occured at in-

tervals of one or two weeks since. The countenance was sallow throughout the disease. The stomach, which is in the society's cabinet, presents, in the pyloric portion, posteriorly close to the small curvature, a pale circular ulcer an inch in diameter, without induration or thickening, and passing through all the coats. The pancreas forms the base of the ulcer, which is adherent to it. Some of the granulations of this gland are seen, though the surface of the ulcer is mostly smooth. The large open orifice of an eroded artery is very conspicuous, and examination shows this to be the splenic of full size, and as healthy as usual in persons past middle age. The lips of the orifice present nothing unusual, and there is no clot in the interior of the vessel. The pancreas is otherwise healthy, and also the stomach; which, however, was found, on dissection, full of coagula and serum. An interesting point in this case was the sallowness of the countenance, which is generally considered characteristic of malignant disease.

July 10th.—Ovarian Cyst containing Hair, &c.—Dr. J. B. S. Jackson exhibited the specimen. The case occurred some years since in the practice of Dr. Harper of Sandwich, and the specimen, preserved in spirit, has been recently brought to the city by Dr. Lewis, and is by him presented to the society for their cabinet. The patient was an unmarried female, forty-nine years of age, and died from an attack of cholera. The general health was not good; countenance sallow, and the enlargement of the abdomen dated from a severe sickness that she had had thirty-three years before death. The cyst contained, by estimate of Dr. H., not less than two gallons of a muddy chocolate-coloured fluid, and floating in this a mass of hair and fat, the size of a full-grown fœtal head. The hair grows from the interior of the cyst by a peduncle more than a foot in length, like a scalp lock; the pores upon the surface from which it arises being well marked as in one of Cruveilhier's plates, which is shown with the specimen. There are also one or two other quite small patches of cutis on other parts of the cyst from which hair arises, besides some scattering hairs, about the origin of which there seems to be no especial development. Connected with the large cyst, and opening freely into it, is another, nearly the size of the first, and filled with two distinct masses of hair that seem to have no connection with its interior. In the walls of each of these cysts, but especially in the smaller one, there is a very considerable bony deposit, but no appearance of teeth, nor anything like a distinct fœtal bone.

ART. IV.—*Experimental Inquiry into the correctness of M. Poiseuille's explanation of the purgative action of certain substances.* By GEO. WYMBERLEY JONES, M. D., of Ga. (Extracted from an inaugural dissertation for the degree of M. D., in the University of Pennsylvania.)

M. POISEUILLE declares, that when animal tissues are interposed between the serum of the blood and solutions of sulphate of soda and chloride of sodium, endosmose takes place from the serum to the saline solution. The inference drawn from this is, that the action of purgative salts upon the stomach and bowels of a living being, is a physical one; that, in short, the catharsis produced by these medicines, is nothing more than an endosmose of the serum of the blood, through the coats of the containing vessels to the saline solution within the intestine.

But the most remarkable of Poiseuille's assertions is, that he has discovered that the hydrochlorate of morphia exercises a peculiar influence over the direction of the current. He says that when it was added to the saline solution, the endosmose from the serum to the solution was considerably diminished, and its direction finally reversed.

Attracted by the novelty and interest of these announcements, I determined to try a series of experiments, with a view to ascertain how far the operation of all the cathartics was influenced, or might be explained by this endosmose; and to discover whether the action of the astringents would correspond with the requirements of the theory.

Accordingly, I caused four instruments to be made, after the fashion of Dutrochet's simple endosmometer: and as they were all exactly similar to each other, a description of one will suffice.

It consisted of a glass tube, one-seventh of an inch in diameter, and five inches in length, attached to a scale, which was graduated to the twelfths of an inch: its lower end expanded into a cup-shaped cavity, projected beyond the extremity of the scale; and the rim of the cup, instead of terminating in an edge, was rolled upwards externally so as to form a good place of attachment for the ligature, which bound the membrane, and thus to guard securely against the escape of the liquid within the tube.

In every case, the serum of the human blood was the liquid placed inside of the tube; in every case, a fresh gastric mucous membrane was the one employed; and in every case, the membrane was so arranged, that it should present to the external liquid the same surface with which that liquid would have been in contact had it been taken into the stomach of the living animal. In this manner, the surface of the mucous membrane, which, in the natural state, is next to the tunica propria, was always in contact with the serum; and the surface which usually faces the cavity of the stomach was always exposed to the external liquid.

The first thing to be done was, to verify Poiseuille's first experiment, and

this was effected without any difficulty. Upon placing an endosmometer, containing serum, and covered at the bulb by a portion of the fresh gastric mucous membrane of a hog, in a solution of sulphate of soda,—endosmose took place from the serum to the solution: and the same thing happened when common salt was substituted for the sulphate of soda.

It then occurred to me, that a good test for the truth of Poiseuille's theory would be to try the effect of the astringent salts upon the direction of the current.

For if, according to his notion, the purgative salts operate by causing the endosmotic current to flow in one direction, the astringent salts ought to cause it to flow in exactly the opposite one.

Indeed, it is evident, that unless these two classes of medicines produce different directions of the current, the action of neither of them can be accounted for by endosmose; and Poiseuille's theory must be deemed untenable.

I therefore introduced other endosmometers, prepared as before, one into a solution of alum, and a second into a solution of acetate of lead. In both instances endosmose occurred *from the serum to the solution*, in the same direction as when sulphate of soda was used, but with somewhat less rapidity.

But it is my misfortune to disagree with M. Poiseuille on a still more important point; and that is the influence exercised by morphia, when added to a saline solution, in retarding and reversing the current. He used the hydrochlorate of morphia, but I preferred the sulphate, as being most commonly used in medicine.

I placed an endosmometer, prepared as before, in a solution of sulphate of soda; and when the usual action was fully established, added some of the sulphate of morphia. Finding no effect produced I added more—and more again, without causing the slightest diminution in the rapidity of the endosmose from the serum.

I will confess to considerable disappointment at the issue of this experiment. I felt anxious to verify that of Poiseuille: but all my endeavours to do so were of no avail. The morphia was obstinate and would not be persuaded.

But in order to ascertain the influence of morphia upon the direction of the current, the sulphate in solution was placed in a vessel by itself, and an endosmometer immersed in it as usual to about one-fourth the length of the instrument. The current flowed *from the serum to the morphia.*

The same effect was produced by the nitrate of potassa. A solution of tannic acid caused a current from the acid to the serum, with a rapidity which was diminished when the solution was made stronger.

When the infusions of black-hellebore, jalap, and colocynth, were employed as the external liquids, the results did not correspond with their cathartic action; the same thing was also observed of the solution of elaterium.

When, instead of the gastric mucous membrane of the hog, that of a woman, obtained shortly after death, was employed, the results were precisely similar to those already stated.

That there are phenomena occurring in the human body which are properly explicable by endosmose, is undoubtedly true; but that catharsis is one of those phenomena appears to me entirely inadmissible, and I confess my inability to understand how any man could infer that cathartics purged by means of endosmose, from the simple fact of serum permeating a membrane to mingle with sulphate of soda. If there had been no affinity between the liquids, there would have been no endosmose; for we know it to be dependent upon such affinity. Are we then to believe that the action of purgatives is dependent upon their affinity for the blood? And does it follow that because sulphate of soda produces a current from the *serum*, it would therefore produce a current from the *blood?* When, moreover, this latter fluid contains substances, organic and chemical, sufficient to modify and alter any endosmotic action?

How, by this theory, are we to account for the operation of purgatives endermically applied? how for the fact that a drop of croton oil placed on the back part of the tongue will act as a cathartic?

ART. V.—*On the use of the Warm and Vapour Baths.* By S. KNEELAND, Jr., M. D.—Boston.

IN a former number of this Journal, (for July, 1847,) we fully treated the subject of hydrotherapy, in as far as *cold* water forms a part of it: we would now complete the subject, by considering the use of *warm* water and *vapour* in medicine. Though, as we have formerly observed, *cold* water may be employed in many cases where *warm* and *hot* water are commonly considered necessary, still, there are certain diseased conditions, certain idiosyncrasies, where *cold* water will be found less beneficial than *tepid*, *warm* or *hot* water.

Physiological action of the Warm Bath.—This may, in a great measure, be inferred from the well-known phenomenon of life during warm weather, depending on increased peripheral circulation—the face becomes injected, as well as the general cutaneous surface; the pulsations of the heart, and the respiration are more frequent; the cutaneous and pulmonary exhalations are increased, and a proportionate increase of aqueous drinks becomes necessary to supply the waste. From this derivation from the internal organs, persons suffering from congestion of these organs find themselves better in summer than in winter.

From Hale's experiments, according to Magendie, it is proved that the movement of fluids through tubes is rapid in the ratio of their temperatures; that, the greater the heat, the more rapid the circulation. To prove this, *cold* water was injected into the mesenteric artery of an animal, the vein and anastomosing branches in the neighbourhood being tied; it returned by the vein in a given time:—the same quantity, at a *medium* temperature, and under the same pressure, passed eighteen times quicker; when *hot* water was used, the velocity of its passage was thirty-two times greater than that of the lukewarm fluid.

It must be recollected here, as well as for the cold bath, that the thermometer is not a sufficient guide, as what is warm for one, may be cold for another, according to individual sensibility. According to M. Edwards, (*De l'influence des agens physiques sur la vie*, Paris, 1824,) there is a great difference, in warm blooded animals, in the power of producing heat, according to season; in summer the calorific power is less, in winter it is greater, than in spring and autumn. The same is, to a certain degree, true of our artificially increased temperatures; for instance, in the midst of winter, it would be improper, and perhaps dangerous, to take a person from a temperature of 25° F. and plunge him into a bath at 100° F., without passing through the intermediate degrees of heat; the system requires time to oppose its "spontaneous sedation" to the exciting effects of heat;—a much higher temperature than this may be endured, by gradually passing from one extreme to the other. The temperature of the human body is 98° F.; but, as the calorific power is different in different individuals, the indications for the application of heat can only be known from experiment, from the impressions of the patient, the temperature of the surface, and the visible phenomena during the application.

The *tepid* bath, from 86° to 92° F., is rarely used as a hygienic agent, as it deprives of caloric faster than the warmer bath, and does not possess stimulating properties enough to ensure reaction, like the colder bath. It is useful as a preparative to the *cold* bath.

The *warm* bath, from 92° to 100° F., increases the activity of the circulation, and consequently of the respiration. In water at 98°, the pulse is slightly accelerated; at 101°, it is fifteen or eighteen more than usual; at 104°, it rises to 108–112; the respiration ordinarily is not increased under 101°; above this, it slowly increases, and at a prolonged heat of 104°, it becomes anxious and panting. This bath increases the cutaneous circulation at the expense of the internal organs, by exciting the superficial capillaries, relaxing and rendering more permeable the external tissues, and calming any morbid sensibility on which internal congestion may depend. It is commonly resorted to as a means of cleanliness, and by many, even in midsummer; it quiets restlessness, calms the nervous system, and may prevent many commencing diseases from internal congestion; but it is, as will be seen, much abused.

The *hot* bath, above 100° F., is rarely employed as a hygienic agent in modern times. The luxurious Romans used very hot baths, at all times of the day, even after meals; the effects are mentioned by Juvenal in his first Satire (lines 142–4):

"Pœna tamen præsens, cùm tu deponis amictus
Turgidus, et crudum pavonem in balnea portas.
Hinc subitæ mortes, atque intestata senectus."

They were in general use till the time of the Emperor Octavius Augustus, whose disease, after having been aggravated by them, was cured by the cold bath by his physician, Musa; the old doctrine was then proscribed, and the cold bath came into favour. After the first spasmodic action on entering the hot bath, the skin becomes red and swollen; the carotids pulsate forcibly, the heart feels oppressed by its rapid beatings, the respiration becomes frequent and painful—a copious sweat soon relieves of a portion of the excessive caloric, but all cutaneous evaporation is imposible—pulmonary and cerebral apoplexy may be the result of this artificial plethora. The immediate effects are stimulating; but the consecutive are highly debilitating, from the numerous and excessive losses, and the spontaneous sedation which follows every powerful excitation. The temperature of the body, thus raised, remains above the natural standard a certain time; thus explaining how certain nations expose themselves with impunity to great cold, after the hot and vapour bath: but it would be a sad mistake to suppose that any accumulation of heat, in the ordinary warm bath, can preclude the necessity of avoiding exposure to cold, on leaving it; as such immunity would only follow temperatures much higher than the usual ones.

The frequent use of the warm bath as a hygienic agent, is a most pernicious custom; though it excites for the moment, and gives a sensation of warmth and well-being, it leaves the body more or less exhausted, and the surface more susceptible to cold. Contrast this with the tonic qualities of the cold bath, and the superiority of the latter must be evident. The warm bath, then, relaxes and weakens, renders the skin morbidly sensible, and disposes it to the reception of contagious diseases; it disposes to apoplexy, by the artificial plethora it causes: even Hippocrates knew this, for he says (5th section, Aphorism 16):—"Calidum eo frequenter utentibus has affert noxas: carnis effœminationem, nervorum impotentiam, mentis torporem, sanguinis eruptiones, animi deliquia: hæc quibus mors." From the too frequent excitement of the cutaneous surface, its arteries, veins, nerves, and lymphatics become enlarged; and from this excess of nutrition, diseases of the skin become more common and more obstinate.

Therapeutic effects of the Tepid, Warm and Hot Bath.—As heat is the essential necessary element in every vital phenomenon, it may well be conceived, that our artificial methods of applying caloric, this "radical stimulus of the vital sense," must be of great utility in certain diseased conditions.

General action.—The tepid bath is a most soothing and calming application, when not heated so as to quicken the circulation; and may be used with advantage in most inflammatory diseases. In the sensation of languor, heaviness, and feeling of fatigue, or what the French call "courbature," the tepid bath, from 90° to 93° F., will frequently prevent the occurrence of fever; a refreshing perspiration breaks out while the pulse and respiration remain unaffected; it acts thus only when long continued, the first effect being emollient, the second diaphoretic. In hot climates, and during our summers, the tepid bath is more refreshing than the cold bath; it restrains inordinate perspiration, calms arterial and nervous excitement, without the sometimes unpleasant reaction of the cold bath: judiciously used, it will prevent many diseases arising from excessive heat.

The action of the tepid *affusion* is very different from that of the tepid *bath.* It would at first be supposed, that the *tepid* affusion might be employed, where the heat of the body is not high enough to render the *cold* affusion safe; or in those stages of fever, in which the heat does not exceed the temperature of health. But from the experience of Dr. Currie, the heat of the body is lowered more speedily by the tepid, than by the cold affusion; as the evaporation from the surface, on which cooling depends, is more copious: and the stimulus of reaction, by which heat is evolved, is absent in the tepid affusion. He accordingly employs it in fevers, where "the morbid actions are weakly associated, depending rather on the stimulus of preternatural heat, than on contagion, miasmata, the morbid contents of the stomach and bowels, or local inflammatory affection"—as in most of the feverish affections of children, in which this affusion diminishes the heat, the frequency of the pulse and respiration, and promotes sleep. He also employs it in feverish pulmonary affections, where the cold affusion would be dangerous; and in all cases, in which the cold affusion is recommended, where the fears or weakness of the patient, render the more powerful remedy questionable. The paroxysm of hectic fever is sometimes completely broken up, by the use of this affusion at the commencement of the hot stage.

The *warm* bath, according to Dr. Forbes, (*Cyclopedia of Practical Medicine*, art. *Bathing*,) is useful in chronic, nervous, and spasmodic affections, unattended by inflammation and plethora; in painful non-inflammatory diseases, as neuralgia, calculi in the different canals; preceded by bleeding, in acute inflammation of the abdominal and pelvic mucous membranes; in cachexial, with irregular distribution of blood, and functional derangement.

The warm bath is of great utility in chronic cutaneous affections; according to Gibert, it is useful in all their stages. Alibert says, "Les bains tièdes conviennent donc dans presque toutes les affections herpetiques. Non seulement ils concourent à la guerison, mais ils peuvent l'operer dans

quelques circonstances sans l'intermède d'aucun autre moyen curatif." Falconner says, the adult body absorbs ℥48 hourly, in this bath.

According to Dr. Currie the heat is diminished during the cold stage of intermittent fever, not only on the surface, but over the whole system; he has found it, under the tongue and in the axilla, as low as 92° F., and at the extremities some degrees lower. "At this time," says he, "the stomach feels cold, and universal tremor takes place. Warm, and even hot liquids, are highly grateful, and the warm-bath, heated to 100°, more grateful still. The drinking of warm liquids should be freely indulged in, and there is reason to believe that immersion in the warm bath, as prescribed by Galen, would be found as salutary as it is grateful." The pulse increases in force and frequency, and the heat begins to rise.

In mental derangement M. Esquirol advises laxatives one day, and the warm bath the next; and he found this method very successful: at the Salpetrière he has used it even as long as eight hours at a time, and has never found it debilitating, when forty-eight hours were allowed to elapse between the applications; he used cold to the head at the same time. Mr. Davidson, in the Lancaster Asylum, used a bath at 85° in cases accompanied by vasuclar excitement.

In dyspepsia, accompanied by gastro-intestinal inflammation, in which irritating medicines would be injurious, the warm bath is very useful, by restoring the usually deranged functions of the skin; and in affections that seem to depend on an irregular or diminished action of any portion of the alimentary canal, in which the cutaneous function is almost always deranged. The relaxing effects of the warm bath are of well known utility in reducing strangulated hernia, dislocations, &c. A half an hour's immersion in a bath at 98° will cut short many a threatening rheumatism.

The proper time to take the warm bath is about an hour before dinner; it should never be taken after a hearty meal, even after an interval of some hours.

"By relieving pain and irritation, they are sedative; by restoring deranged functions, indirect tonics; by soothing the nervous system, antispasmodic; by modifying the extreme circulation, derivative; by action on the skin, diaphoretic; by these combined, alterative." The increased sensible perspiration diminishes the heat of the body during immersion; but as it continues for some time after leaving the bath, it becomes a powerful refrigerant.

The *hot* bath, from its reaction towards the skin, is very frequently employed in chronic cutaneous affections with atony of the integuments; when very hot and of short duration, it vividly excites the surface, causing "critical evacuations," which are, however, more safely and as surely produced by the "sudorific process." When exanthematous eruptions come out badly, the revulsion of the hot bath is often beneficial; but, as it must be employed uncomfortably hot, and of short duration lest the effect be too

debilitating, the sudorific process, or the cold affusion is better, and less dangerous when apoplexy or hemorrhage is to be feared. The same revulsion is of use in chronic irritation of muscles, nerves, articulations, and the abdominal viscera; but its dangers will prevent its becoming of general use, especially as cold water and the vapour bath are more efficacious; it has been employed in these cases at 109° F.

In cholera very little is to be hoped from the administration of medicine, from the almost complete cessation of the absorbent power of the internal surfaces. Mr. Rankin, of Calcutta, (*London Medical Gazette*, March, 1844,) uses long continued hot baths, during the stage of collapse, at 110° to 115° F. for an hour or more, until the "restored circulation indicates the removal of that obstruction on which I conceive collapse, in cholera, to depend. A treatment which would be dangerous in collapse from long previous illness, or extreme exhaustion, and produce fatal syncope, is not so in a disease where copious sweats and rice-water dejections are the only visible causes of weakness." The most remarkable effect was the restoration of the functions of the skin. It may be well to compare this treatment with that of the free drinking of *cold* water (as described in the *Medical Magazine*, Boston 1833, Vol. 1st); the difference in the treatment may be in a measure owing to the difference of climate in the two cases.

The utility of this bath for the *cure* of disease is greatly diminished by the now better understood effects of the cold and vapour baths; but as a *preventive* of disease, it may be more generally employed with advantage.

Partial Application of the Warm Bath.—The tepid hip-bath is an excellent calmant in certain pelvic affections, as diseases of the bladder, retention of urine, urethral inflammation, uterine diseases, fluor albus, chronic diarrhœa, and the various excitations of the genito-urinary system. The hot hip-bath is extremely useful in facilitating tardy or insufficient menstrual discharges by directly drawing the blood to the uterus; and in many spasmodic abdominal affections.

The hot pediluve and manuluve are often employed as revulsives, especially the former, in cerebral affections accompanied by determination of blood to the head, with vertigo, tinnitus aurium; in the paroxysms of asthma; in diseases of the eyes. The hot manuluve is too much neglected; it is of great and speedy efficacy in congestive headaches, and in irregular distributions of blood to the cerebral and thoracic organs. The repelling power of cold may be advantageously joined to the attractive power of the hot pediluve in cerebral congestion, by using cold applications to the head. The tepid pediluve, and tepid evaporating lotions, relieve greatly the pain of the gouty paroxysm.

The hot *douche*, as well as the cold, is of great utility. Strictly *local* diseases should, as a general rule, be treated by the hot *douche* instead of the hot *bath*, unless they are merely the manifestation of a constitutional affection, in which case the diathesis requires the general bath, and the

symptoms the douche. The douche has this great advantage, that it does not cause the general plethora which forms so great an objection to the hot bath; while it produces even more cutaneous excitation, as the heat may be borne much higher than when the whole body is exposed to the medium; and the shock is a powerful excitement in itself. It will be found of advantage in local paralysis, glandular enlargements, rheumatic and neuralgic pains, diseases of the joints, indolent tumours, and all local affections accompanied by atony.

M. Lehmann (*Journal des Connaissances Medico-Chirurgicales*, April, 1835) proposes the following treatment of croup, which is less startling than the cold affusions to the back employed by the Russians; he has met with the happiest results from this treatment, which, however, must be applied before the formation of the characteristic exudation. It consists in applying to the laryngeal region a sponge dipped in water almost boiling (but not hot enough to produce vesication) after pressing out some of the liquid; others are substituted every few minutes until a vivid redness is seen, usually accompanied by a general perspiration, which should be kept up by warm drinks; the dyspnœa, hoarseness, and croupal cough, disappear often, as if by magic. Though this should prove useful only in one case in a thousand, it merits a trial in this common and fatal disease.

As a local emollient warm water is of the greatest value. It penetrates and softens the tissues, rendering them more tense without inducing an afflux of blood; it relaxes the hardness of inflammation, diminishes pain, and promotes resolution. The superiority of warm water to poultices is every day becoming more manifest; no one insists more strongly on this point than Dr. Macartney. Once the excuse of impracticability was enough for the advocates of the cataplasm; but now hot water and steam may be employed in as simple a manner: in fact, the poultice is unfavourable to absorption, weighs more, costs more, smells worse, and is less easily obtained and applied than the warm water; we hope the time is not far distant when, like the University Hospital, (or the wards of the late Mr. Liston at least,) every hospital in our own country will banish from its walls this nuisance, alike offensive to the eye and nose.

Hot water also softens inflamed tissues, but, by causing an increased afflux of blood, it promotes suppuration; hence it should only be applied when suppuration is inevitable, in order to hasten and render less painful this process.

It is well known that heat is highly favourable to the healing of wounds; better proof of this cannot be given than the testimony of Baron Larrey, who found the wounds of the French army heal very readily under the burning sun of Egypt; while in the Russian campaign they healed very slowly, degenerating into obstinate ulcers, and many trifling ones proving fatal. Percy says that nothing can replace warm water as an application to recent tumours, which are usually covered by poultices, &c., as contrary to

nature by their weight as by their constituents: he says, "S'il fût possible dans un coup de feu ou tout autre blessure grave d'imerger la partie blessée dans l'eau, à une temperature convenable, pendant les dix a quinze premières jours de l'accident, il y aurait bien moins d'amputations, et l'on conserverait la vie a beaucoup plus de blessés." The ancients advise warm water in inflammation accompanied with fever, great itching, &c.—indeed very little can be added to what Hippocrates says in the 22d aphorism of the 5th section." Calidum suppuratorium, non in omni ulcere, maximum signum ad securitatem: cutem emollit, attenuat, dolores sedat, rigores, convulsiones, tetanos mitigat: capitis verò gravitatem solvit: plurimum autem confert ossium fracturis: maximè vero denudatis: ex his quidem maximè qui in capite ulcera habent: et quæ a frigore moriuntur, aut ulcerantur: et herpetibus exedentibus: sedi, pudendo, utero, vesicæ. His calidum quidem amicum et decretorium, frigidum vero inimicum et occidens."

Water may produce rubefaction, vesication, or escharification, according to its temperature. Boiling water is used in surgery, often with great carelessness, and almost always without a precise knowledge of its powers. In Hufeland's Journal for 1843, M. Ruppius gives two cases of the successful employment of boiling water in callous fistulæ; the advantages are, that it loses its temperature quicker, and does not destroy all the tissues as does the red-hot iron. To ascertain the effects of water at different temperatures, we shall allude to the experiments of M. Trousseau on the "water hammer," (marteau d'eau) first used by M. Mayor, of Lausanne. A steel hammer with a handle of wood, is plunged into boiling water; when heated, this is applied to the skin—the pain is acute, and the skin is discoloured and sunken; there is a true eschar. With water at 176° F., an eschar is also formed, if the hammer be large; at 158° a phlyctena is formed, and when the epidermis is raised, a kind of false membrane is seen, which is a superficial eschar of the dermis; as albumen coagulates at 158°, when this degree of heat is applied to the capillaries of the dermis, the albumen is coagulated, and becomes a foreign body or an eschar. To determine if any of the elements of the dermis were disorganized below 158°, M. Trousseau commenced the application of the hammer at 122° and gradually ascended towards 158°. At 122° the hammer caused rubefaction, which sometimes lasted an hour if the hammer were kept in contact with the skin till it cooled. At 131° the pain was severe and the rubefaction permanent. If when the hammer was slightly cooled, another was applied at the same temperature, a bulla was formed, without disorganization of the dermis. At 140° the pain was hardly supportable; a single application produced vesication, repeated application caused a superficial eschar. At 150° by repeated application an eschar formed, for, though albumen does not coagulate at this heat, fibrin condenses and contracts at a much lower temperature. To recapitulate: the hammer of Mayor produces an eschar even as low as 158° F.; repeated application at 150°

produces superficial mortification of the dermis, and always causes vesication; between 130° and 150° there is vesication, usually without mortification.

The end proposed by the application of boiling water is to excite at all hazards the deadened sensibility, as in apoplexy and comatose affections, to produce vesication. We have seen that there is no necessity for employing water at 212° to produce vesication, as water at 150°, and even lower, will have this effect. It is only necessary to glance at the three degrees of burns from water to perceive the singular difference in the effects according to the temperature; the mortification of the whole dermis (the third degree) takes place where the boiling liquid falls on the naked skin; the mortification is superficial at the edges of the burn, and when the water has a little cooled, the second degree is where the water burns through the clothes, or at a lower temperature, and, by degrees we descend to simple rubefaction. How absurd, then, and dangerous to employ water at 212°, when water at 140° will answer as well? This practice is the more dangerous that the diseases in which it is chiefly used are those of advanced life, in which the burns (usually on the extremities) will often result in incurable infirmities. We think this subject merits further consideration; and that the "hammer of Mayor" may be used with the utmost advantage in those affections where the moxa is indicated.

Internal use of Warm Water.—Warm water taken into the stomach is calmant; in large quantity, emetic from mere distension; in continuous draughts, it acts mechanically as a laxative. At a higher temperature it excites the stomach, and by radiation the whole system; it is sudorific, from the movement of expansion towards the skin; it will frequently stop stomachal and intestinal spasm much quicker than the usual external applications.

The utility of enemata of warm water is too well known to require notice. In the *Medico-Chirurgical Transactions*, (1841,) Dr. J. Wilson mentions that colica pictonum is most successfully treated by the warm bath, and enemata of the water during immersion; if, as Andral supposes, the constipation depend not only on paralysis of the intestinal muscular coat, but on a diminution of the intestinal secretions, copious draughts of warm water would also seem indicated. In certain cases it is important to take advantage of the absorbent powers of the large intestine, as in cholera. In the Medical Magazine (Boston, 1833) diluent injections are highly spoken of as a means of restoring the fluidity of the blood, which is so remarkably altered in the latter stages of cholera: when absorption is totally suspended and the most powerful stimulants fail to excite the circulation, the author (Dr. O'Shaughnessy) would not hesitate to inject some ounces of warm water into the veins: he says "it should also be remembered that this mode of medication has, in many a desperate disease,

been practised with success, and that by some of the most cautious and experienced physicians in the world."

Mr. W. Lyon, (*London Medical Gazette*, 1844,) extols injections of warm water into the uterus as a means of facilitating labor. This has been applied in two cases in which the waters had long been discharged, and the uterine contractions had ceased; in one case the forceps, and in the other version would have been necessary: an injection of a pint of warm water brought on the pains, and speedy, safe delivery; though the details are not given with much precision, it may be a useful hint.

Every surgeon knows that there is a spasmodic stricture of the urethra, in which slight exposure, intemperance in eating or drinking, &c., bring on a complete retention of urine: this may endure for days, and the distended bladder and urethra may slough; the treatment as laid down in surgical works, is by bougies, venesection, warm-baths, opiates, and finally puncture of the bladder. The following is the simple but effectual treatment of M. Amussat. He passes a catheter down to the seat of the stricture; he then inserts into the catheter the pipe of an India-rubber bottle, filled with warm water; a slight pressure is exercised upon the bottle; the water, like a liquid catheter, accommodating itself exactly to the shape of the stricture, is more apt than any other means to resolve the spasm. A possible objection that it is dangerous to submit the distended bladder to any more pressure is not valid, as it is more dangerous to wait; the method of Amussat is certainly preferable to the dangerous operation of puncturing the bladder. Cold affusion to the genitals might aid, or even supersede this treatment.

Physiological Action of the Vapour Bath.—It may be well to consider here the comparative healing powers of air, water, and vapour; and the different temperatures at which each may be borne.

How high can the animal temperature be raised? To answer this let us allude to the experiments of Magendie, as detailed in the *Gazette Médicale de Paris* (for April 27, 1844). Let a rabbit or dog (whose normal temperature is 102° F.) be placed in air at 212°, and another in air at 140° the blood in the first will be heated quicker, and death will ensue sooner than in the last; but the temperature of both at death will be 111°, an increase of 9°; seeming to show that in animals there is a limit to the increase of temperature. A bird (whose normal temperature is 111°) will die when its temperature is raised to 120°, showing the same increase of 9°.—Is the same true as regards man? It is owing to this increase of temperature that the Russian may plunge with impunity into icy water on leaving his vapour bath, the excess of the body's caloric neutralizing for a time the coldness of the water.

In the animal subjected to these experiments, the arterial blood, at the moment of death, was as black as venous blood, and did not redden on exposure to the air; it had lost its coagulability, rendering it less proper

for circulation and more prone to leave the vessels; hence frequent epistaxis, injected conjunctiva, and subcutaneous extravasations resembling the ecchymoses of scurvy and purpura. How is this increase of temperature effected? by the skin, or by the lungs? To determine this Magendie placed a rabbit with his head alone in the stove; the temperature of the rectum in a given time was slightly elevated—he placed another with his body alone in the stove; and at the end of the same time the temperature of the rectum was much more elevated; he concluded that caloric penetrates into the system rather by the skin than by the lungs. In hot air, an animal loses weight by evaporation, not according to the degree of heat, but according to the time spent in it; in hot vapour, an animal does not lose weight, (and even sometimes gains,) either on account of the vapour deposited on the surface, or because the fluids evaporated have been replaced by the vapour absorbed.

From the observations of Fordyce, Blagden, and Dobson; and Berger and Delaroche (*Thèses de Paris*, 1806, No. 11), it appears that man can endure a dry heat of 230° F., and even higher, while the vapour bath cannot be easily endured above 120° F. Animals have been found to die at a much lower temperature in the vapour, than in the air bath; this may well be understood from the fact that in the former, already saturated with moisture, the pulmonary exhalation cannot take place; the cutaneous *evaporation* is, for the same reason, null. The abundance of the cutaneous *transpiration* is not sufficient to counterbalance a great amount of caloric; and watery vapour is a better conductor of heat than dry hot air. This difference should be borne in mind, in prescribing the vapour bath.

Magendie found that animals die quicker when the *body* only is plunged in a vapour bath, than when the *head* only is introduced; which would not, *a priori*, be supposed. The vapour bath is frequently given to the body only; sometimes a current of hot vapour is directed immediately to the lungs: in the latter case (or in fumigations) the temperature may be elevated much higher than in the former; the body can rarely support a vapour higher than 122° F., while fumigations may be borne easily at 140°; showing that the lungs are less sensitive to caloric than the skin. To show that the lungs do but little towards heating the body, in this bath, Magendie kept a rabbit for 20 minutes in water at 50° F., its temperature then being 70°F.: it was placed in a temperature of 194°; in 15 minutes more it was taken out expiring, the temperature in the rectum being only 77°, instead of 111°: the heat was mostly taken up in evaporating the water filling the animal's hair, so that the system could be affected only by the lungs; with what effect has been seen.

On leaving both the vapour and hot air bath there is thirst; that from the vapour bath soon disappears without drinking, while that from the hot air bath yields only to drinks. In the former the blood is simply heated, in the latter it is also deprived of a certain amount of its watery part—in

a warm summer's day a piece of metal held in the mouth will diminish thirst by diminishing the local heat, if copious perspiration have not taken place. When an animal dies in the vapour bath, the lungs and large vessels contain but little blood; as in the hot-air bath, most of it is attracted towards the periphery, where it is extravasated.

According to Dr. Forbes, as a general bath water can hardly be borne at 120° F., Rostan bore it with difficulty for half an hour at 115°; the heat of the Russian or Egyptian vapour bath is much above this. From the experiments of Dr. Edwards, frogs will live but two minutes in water at 104° F., though the head was not immersed; while they lived in vapour at this temperature, breathing it more than five hours. The case is somewhat different if the vapour be not breathed, as a much higher temperature may be borne, since the cooling process of pulmonary evaporation is not impeded. Dr. Forbes gives the following table of the equivalent heating powers of vapour and water:

	Water.	Vapour not breathed.	Vapour breathed.
Tepid,	85°–92°	96°–106°	90°–100°
Warm,	92°–98°	106°–120°	100°–110°
Hot,	98°–106°	120°–160°	110°–130°

At corresponding temperatures the vapour bath causes a greater cutaneous transudation than the warm bath; and this is rendered still greater by the disproportionate degrees of heat, as indicated by the thermometer, which are to be considered as equivalent (see table). The vapour bath causes a greater accumulation of the fluids in the integuments from the greater rarity of the medium; hence it is the most powerful derivative. The thermometer should be more carefully consulted in using the vapour bath, as the gradual increase of temperature is not so easily perceived as in the water bath.

The vapour bath is not now used as a hygienic agent, except by the Turks and Eastern nations. In many institutions, as the Hospital of St. Louis in Paris, the public vapour bath is still extensively used as a therapeutic agent: it is arranged as an amphitheatre, the heat increasing with the elevation. But the solitary vapour bath in which the whole body, or all but the head, may be included, is most frequently employed in medicine.

When the body is plunged into a vapour bath of 80° to 95° F. there is felt an agreeable sensation of heat, accompanied by slight transpiration; the skin becomes covered by drops, not of sweat, but of the condensed vapour, which roll down the body as they do the walls of the apartment; the pulse is slightly accelerated, but the respiration is generally unaffected. After this bath the functional activity of all the organs is increased. At a temperature from 95° to 110° the skin becomes hot and reddened, the cellular tissue is swelled, the limbs increased in circumference, the muscular force is greatly diminished; the pulse quick and strong; the cutaneous vessels, especially of the head, are swollen and pulsate forcibly; the respiration is difficult; the perspiration abundant: in fine, we have the phenomena of the

for circulation and more prone to leave the vessels; hence frequent epistaxis, injected conjunctiva, and subcutaneous extravasations resembling the ecchymoses of scurvy and purpura. How is this increase of temperature effected? by the skin, or by the lungs? To determine this Magendie placed a rabbit with his head alone in the stove; the temperature of the rectum in a given time was slightly elevated—he placed another with his body alone in the stove; and at the end of the same time the temperature of the rectum was much more elevated; he concluded that caloric penetrates into the system rather by the skin than by the lungs. In hot air, an animal loses weight by evaporation, not according to the degree of heat, but according to the time spent in it; in hot vapour, an animal does not lose weight, (and even sometimes gains,) either on account of the vapour deposited on the surface, or because the fluids evaporated have been replaced by the vapour absorbed.

From the observations of Fordyce, Blagden, and Dobson; and Berger and Delaroche (*Thèses de Paris*, 1806, No. 11), it appears that man can endure a dry heat of 230° F., and even higher, while the vapour bath cannot be easily endured above 120° F. Animals have been found to die at a much lower temperature in the vapour, than in the air bath; this may well be understood from the fact that in the former, already saturated with moisture, the pulmonary exhalation cannot take place; the cutaneous *evaporation* is, for the same reason, null. The abundance of the cutaneous *transpiration* is not sufficient to counterbalance a great amount of caloric; and watery vapour is a better conductor of heat than dry hot air. This difference should be borne in mind, in prescribing the vapour bath.

Magendie found that animals die quicker when the *body* only is plunged in a vapour bath, than when the *head* only is introduced; which would not, *a priori*, be supposed. The vapour bath is frequently given to the body only; sometimes a current of hot vapour is directed immediately to the lungs: in the latter case (or in fumigations) the temperature may be elevated much higher than in the former; the body can rarely support a vapour higher than 122° F., while fumigations may be borne easily at 140°; showing that the lungs are less sensitive to caloric than the skin. To show that the lungs do but little towards heating the body, in this bath, Magendie kept a rabbit for 20 minutes in water at 50° F., its temperature then being 70°F.: it was placed in a temperature of 194°; in 15 minutes more it was taken out expiring, the temperature in the rectum being only 77°, instead of 111°: the heat was mostly taken up in evaporating the water filling the animal's hair, so that the system could be affected only by the lungs; with what effect has been seen.

On leaving both the vapour and hot air bath there is thirst; that from the vapour bath soon disappears without drinking, while that from the hot air bath yields only to drinks. In the former the blood is simply heated, in the latter it is also deprived of a certain amount of its watery part—in

a warm summer's day a piece of metal held in the mouth will diminish thirst by diminishing the local heat, if copious perspiration have not taken place. When an animal dies in the vapour bath, the lungs and large vessels contain but little blood; as in the hot-air bath, most of it is attracted towards the periphery, where it is extravasated.

According to Dr. Forbes, as a general bath water can hardly be borne at 120° F., Rostan bore it with difficulty for half an hour at 115°; the heat of the Russian or Egyptian vapour bath is much above this. From the experiments of Dr. Edwards, frogs will live but two minutes in water at 104° F., though the head was not immersed; while they lived in vapour at this temperature, breathing it more than five hours. The case is somewhat different if the vapour be not breathed, as a much higher temperature may be borne, since the cooling process of pulmonary evaporation is not impeded. Dr. Forbes gives the following table of the equivalent heating powers of vapour and water:

	Water.	Vapour not breathed.	Vapour breathed.
Tepid,	85°–92°	96°–106°	90°–100°
Warm,	92°–98°	106°–120°	100°–110°
Hot,	98°–106°	120°–160°	110°–130°

At corresponding temperatures the vapour bath causes a greater cutaneous transudation than the warm bath; and this is rendered still greater by the disproportionate degrees of heat, as indicated by the thermometer, which are to be considered as equivalent (see table). The vapour bath causes a greater accumulation of the fluids in the integuments from the greater rarity of the medium; hence it is the most powerful derivative. The thermometer should be more carefully consulted in using the vapour bath, as the gradual increase of temperature is not so easily perceived as in the water bath.

The vapour bath is not now used as a hygienic agent, except by the Turks and Eastern nations. In many institutions, as the Hospital of St. Louis in Paris, the public vapour bath is still extensively used as a therapeutic agent: it is arranged as an amphitheatre, the heat increasing with the elevation. But the solitary vapour bath in which the whole body, or all but the head, may be included, is most frequently employed in medicine.

When the body is plunged into a vapour bath of 80° to 95° F. there is felt an agreeable sensation of heat, accompanied by slight transpiration; the skin becomes covered by drops, not of sweat, but of the condensed vapour, which roll down the body as they do the walls of the apartment; the pulse is slightly accelerated, but the respiration is generally unaffected. After this bath the functional activity of all the organs is increased. At a temperature from 95° to 110° the skin becomes hot and reddened, the cellular tissue is swelled, the limbs increased in circumference, the muscular force is greatly diminished; the pulse quick and strong; the cutaneous vessels, especially of the head, are swollen and pulsate forcibly; the respiration is difficult; the perspiration abundant: in fine, we have the phenomena of the

hot bath. There is, however, less susceptibility to cold after the vapour than after the warm bath. When the head is not included in the bath, these effects will be moderated, and the temperature may be much increased without an increased excitation of the system. The vapour bath is more diaphoretic and less stimulating than the warm bath; at a low temperature it is an excellent calmant.

In Turkey, where every village large enough to have its mosque has also its public vapour bath, the effects of its abuse are very striking. The servants of these establishments, sweating continually and drinking copiously in a state of comparative rest, almost always become dropsical; their flesh, as well as that of the most inveterate bathers, becomes pale and flaccid.

Therapeutic general Vapour Bath.—Like other therapeutic agents, the vapour bath has had its epochs of favour and discredit; it is only of late years that, thanks to Dr. Macartney and others, it has been considered as anything more than a last resource. Some have ascribed to it derivative powers alone; others maintain that it is only emollient, relaxing, or stimulating. From its physiological effects we may infer that its action in disease depends on its temperature and duration; on the extent of contact and force of projection for the local bath. It may produce a tonic, an emollient, a revulsive, an exciting, a diaphoretic, a sedative, and even a caustic effect, according to the physician's wish.

In acute inflammations, as a general rule, the vapour bath is contra-indicated, as it would increase the heat and febrile excitement; yet there are certain acute diseases, especially those resulting from or accompanied by suppressed transpiration, in which its sudorific properties may be eminently useful.

In intermittent fevers it has long been used with success. M. Rapou (*Annales de la Méthode Fumigatoire*, Paris, 1827) has often employed it in children and delicate adults in whom the powers of reaction are feeble; it should be administered at the beginning of the paroxysm, or just before it is expected; by it the paroxysm is shortened, and sometimes prevented: it should be continued till the commencement of the hot stage, and the sweating stage should be treated by warm drinks. He gives several instances in which various intermittent diseases were thus cured. Indeed the popular opinion is just, that these fevers may often be cut short by an abundant transpiration; the French soldiers get rid of this fever by hot alcoholic drinks, and even by a mixture of gunpowder in brandy, which causes a profuse perspiration and consequent relief. Vapour will have the same effect with less danger and inconvenience.

In what the French call "courbature," or a general feeling of uneasiness, with dull pains, after any unusual fatigue; in what we call a "chill," the precedent of the various affections resulting from cold and moisture; in sudden suppression of the perspiration, so fruitful a cause of disease;

in these, the vapour-bath, at a temperature of 96° to 102° F., will, in most cases, if instantly applied, prevent disease, by re-establishing the cutaneous functions; it may be usefully employed at any time before the actual existence of inflammation. The "catarrhal state" is not a state of inflammation, and is injuriously modified by antiphlogistics; still, it often presents alarming symptoms, great fever, headache, &c.; these apparently dangerous symptoms soon disappear on a natural or provoked re-establishment of the cutaneous functions. In pulmonary affections, Marshall Hall (*London Lancet*, 1844) is a strong advocate of a warm moist air; he advises that the chamber be warmed day and night by large basins filled with water at 180° F.; to this he thinks he owes the speedy recovery of a very grave case of pleuro-pneumonia; he has witnessed similar good results from this hygrometrical state of the air in bronchitis and hooping-cough. (See also his *Observations in Medicine*, chap. 10.)

For the same reason that common catarrh is cured by abstaining from liquids, and thus diminishing the secretions of the mucous membrane, and by derivation to the surface by sweating, an intestinal catarrh will be modified by the same treatment—whatever be the explanation, it is certain that an aqueous diarrhœa may often be cured by sweating. (See *Hooper's Medical Dictionary*.)

Dr. Clark, of India (*London Medical Gazette*, April, 1844), treats cholera by the vapour-bath, to cause reaction. This is, by many, ranked as a disease of the digestive organs, but he thinks that the rice-water stools, the scanty urine, and the collapse, are more likely the result of the quantity and quality of the blood sent to the different organs; he considers it a disease of the circulating system—it may arise, as remarks Mr. Annesley, from the blood not receiving sufficient oxygen from the air.

According to Corbel (*Essai sur l'emploi Hygiénique et Medical des bains. Thèses de Paris*, No. 469, 1837) the vapour-bath was once in great vogue against sterility. Sanchez extols it not only in sterility, but during pregnancy, and after delivery; he adds, that by it the Russian women spare themselves many chronic diseases connected with the uterine functions. Rapou and Chaussier (at the Maternité) confirm this opinion and practice of Sanchez.

It is chiefly in chronic affections of the general system that the vapour-bath is beneficial, indeed, in the affections before mentioned as benefitted by the "sudorific process" by envelopment. This bath is less uncomfortable, and not less efficacious, than the enveloping process. The artificial plethora caused by it will be found of advantage in chlorosis, anæmia and scrofula, aided by friction of the surface.

In cutaneous diseases, vapour is universally allowed to be of the greatest efficacy; it is even of advantage in acute affections (as a revulsive), depending on, or connected with, pulmonary or gastro-intestinal inflammations; in chronic diseases, especially the squamous, it causes the crusts

and scales to fall, and afterwards stimulates the skin, and restores its normal vitality. In dropsy and œdema it is of use in stimulating the cutaneous exhalants; and in the anasarca following some eruptive fevers. M. Rapou advises it in chronic pneumonia, hepatitis, metritis and gastritis, aided by friction; in neuroses, metallic colics, paralysis and nervous tremblings, it is the chief treatment at the St. Louis Hospital of Paris.

Its most frequent employment is in chronic affections of the articulations; in rheumatism, neuralgia, muscular contractions, false anchyloses, paralysis, gout; but in most of these the *partial* vapour-bath is preferable. In *acute* general rheumatism, muscular or articular, it is generally contraindicated from the violent fever; and in this stage, copious sweats without relief are quite common. But in *chronic* rheumatism, it has long been known on the Continent as a most powerful remedy; it seems to penetrate the skin more readily than water, and more quickly re-establishes its functions; but even in chronic cases, when the cutaneous irritation brings the disease to an acute stage, instead of acting simply as a derivative, the bath must often be given up. The cases most happily modified by it are those of long standing, of great mobility, with dry skin and increased pain from cold and moisture; here it may cure by a critical perspiration, or a substitutive irritation—it seems also better adapted to chronic *muscular* than to chronic *articular* rheumatism, when aided by frictions, and residence in a warm climate. The temperature may be from 95° to 105° F. for twenty to thirty minutes; an abundant perspiration comes on during and after the bath; the pulse, at first accelerated, soon becomes soft; the skin becomes moist and supple; and there is no fatigue or extreme sensibility to cold as after the *warm* bath. At first, it should be taken every other day; then, every day; and soon twice a-day.

The contra-indications and cautions are the same as for the warm-bath, when the vapour is breathed; when it is not breathed, it is well to use it cautiously in plethoric persons, during pregnancy, and in those disposed to thoracic or abdominal hemorrhage.

Partial Vapour bath.—This bath is more generally applicable in surgery than the general bath; it may be used as a half-bath, foot or hand bath, douche, or local fomentation. According to its temperature, it may produce every stage of action, from the most calming to veritable escharification. The temperature must depend on the sensibility of the part. Dr. Wilson (*A practical Treatise on the Curative Effects of Simple and Medicated Vapour, applied locally*, by James Wilson, M. D., London 1837) makes three classes of cases; in the first the sensibility is exalted, and the vapour should be employed at a low temperature, as in erysipelas, acute gout, and irritable ulcer;—in the second the sensibility is diminished, and the temperature should be increased, as in indolent ulcer;—in the third the sensibility is diminished externally from its increase internally, as in white swelling, chronic synovial inflammation, and chronic articular rheu-

matisms;—in these the temperature should be high. The temperature should be gradually increased as the tissues become accustomed to the stimulus; as the "habit of inflammation" renders a tissue less apt to be influenced by therapeutic agents, the vapour must be at a higher temperature, of longer duration, and more frequently repeated in chronic than in acute affections.

In erysipelas accompanied by great pain and redness, steam at a moderate temperature will diminish the sensibility and restore the natural secretions of the skin; in the chronic erysipelas, which is so apt to fix itself about the large joints, vapour at a higher temperature may be used; but never the steam of *boiling* water, unless moderated during its progress to the part.

Acute gout, as far as the local affection is concerned, is most advantageously modified by the tepid or vapour bath, especially by the latter, which is more speedy in its action.

In speaking of particular diseases we might allude to the writings of Dr. Macartney; but as these are well known we may adduce the testimony of Dr. Wilson, his pupil, who has made the treatment of diseases by vapour his especial study.

When rheumatism is confined to a single joint, the general vapour-bath is inferior to the partial bath, for obvious reasons; indeed the former may be dangerous in certain cases; M. Gibert says (*Maladies de la peau*, p. 44), "I have seen a hemiplegia, followed by death in a few weeks, manifest itself where a vapour bath has been administered without precaution to a slightly plethoric individual who had slight rheumatic pains." Dr. Wilson isolates the diseased joint by impermeable coverings, and exposes it to the vapour an hour at a time, for a week or more, occasionally rubbing it with a strong camphorated liniment, and covering it warmly with flannel; he has thus speedily relieved cases which had obstinately resisted the stimulating liniments and plasters in common use. The douche of hot vapour is equally efficacious in muscular rheumatic pains.

In chronic synovial inflammation, so well described by Brodie, the local vapour bath may advantageously replace the blisters, issues, setons, moxas, and other counter-irritants commonly employed. Where the disease has not gone on to ulceration and suppuration, leeches should first be applied to subdue any inflammation; the joint should then be exposed to vapour as hot as it can be borne for two or three hours: while excited by the steam the joint should be rubbed with a camphorated liniment; the steaming and rubbing should be repeated daily; in the intervals the limb is to be kept in a state of perfect rest.

The steam bath is also of signal efficacy in chronic inflammation of ligaments; of the sub-synovial cellular tissue; of the lining of the muscular and tendinous sheaths around the joints; in simple synovial irritation; in inflammation of the bursæ mucosæ with effusion.

In white swelling, properly so called, (for this has often been confounded with chronic synovial inflammation,) the disease commences in the bone, and gradually involves the soft parts. As we understand it, white swelling consists in the deposit of tuberculous matter in the bone, and, therefore, not much benefit can be expected from treatment in the *adult;* but in the *young*, in whom the terrible law of Louis has some exceptions, we may hope to arrest the affection by proper treatment, and to remove, perhaps entirely, any existing disease by the use of iodine and its combinations.

Chronic muscular contractions may often be made to disappear by the jet of steam, aided by simple and medicated frictions; as torticollis, and certain curvatures of the spine.

It has been much extolled in paralysis not depending on lesion of the nervous centres; in paraplegia, where the immediate cause has been removed, and in local paralyses from metallic emanations; in tic douloureux, and the various forms of neuralgia.

In the exanthemata, where the fever accompanying the eruption is too violent, the vapour should be only emollient, but long continued; when gastric, or pulmonary irritation prevents the due appearance of the eruption, the vapour should be slightly stimulating; when there is retrocession of the eruption, the vapour should be of a high temperature.

In scaly and crusty eruptions vapour is more soothing and emollient than warm water, and more grateful to the irritated surfaces. Where the sensibility is diminished, as in the obstinate affections of the scalp, it is a powerful aid to the usual topical stimulants.

Vapour is of great utility in inflammation of mucous membranes; in otitis, ophthalmia, inflammation of the mouth and fauces, bronchitis, and inflammation of the genito-urinary system; in rheumatic laryngitis, and in aphonia. M. Ribes has shown that hardened wax in the ear is a frequent cause of ulceration or other disorder of the tympanum; this may be prevented by the vapour injection.

In painful wounds vapour is the best possible calmant. We will mention a case of Dr. Macartney. He had received a severe lacerated wound in the palm of the hand from the teeth of a dog, a part of the palmar fascia being withdrawn; the pain was most intense; he plunged his hand as soon as possible into aqueous vapour and kept it there for several consecutive hours; within a half an hour the pain was entirely removed; says the professor "the wound healed in a very short time, *without any of the phenomena of inflammation.*" In contrast with his own case, he relates the following: "A gentleman of my acquaintance received a slight punctured wound in the hand from the spur of a game-cock. It was treated by poultices in the first place: in fact it was treated as those wounds usually are; to wit, there were leeches, medicine, three surgeons, plenty of consultations, and—*a year's confinement cured him.*"

In the words of Dr. Wilson "Should it be imagined by some that the

recital of the therapeutical effects of steam now given is exaggerated, I can only refer them to the agent itself; let it be tried. For my part, I cherish the hope that a day will come when this simple, harmless, and manageable application will altogether supersede a long list of complicated and uncertain remedies that now confuse both the patient and the practitioner."

Boston, *Aug.*, 1848.

ART. VI.—*New Operation for the Radical Cure of Varicocele.* By S. D. GROSS, M. D., Professor of Surgery in the Medical Department of the University of Louisville.

THE following operation for the radical cure of varicocele I have performed eight times within the last few years. The patients were all young men of good constitution, and they all recovered without a single bad symptom. The cure, so far as I have been able to learn, promises to be permanent in every instance.

During the operation the patient may lie down, sit in a chair, or stand up, as may be most convenient. The scrotum, previously divested of hair, is rendered tense by grasping it behind with the left hand. A vertical incision, scarcely an inch in length, is made over the anterior part of the tumour, down to the enlarged veins, which are next carefully isolated from the accompanying duct, artery, and nerves, by a few touches with the point of the scalpel. This constitutes the first step of the operation. The second consists in passing a short, thick sewing-needle—a No. 1 of the milliner, underneath two or three of the larger trunks, and winding around it a stout thread, either elliptically, or in the form of the figure 8. The ligature is drawn with great firmness, so as to indent the coats of the vessels, and put an immediate stop to the circulation. The operation is finished by closing the wound carefully with one or two twisted sutures, or a few strips of court-plaster. The patient is now put to bed, the scrotum is supported with a silk handkerchief, and light diet is enjoined. At the end of twenty-four, or, at most, thirty-six hours, the blood in the constricted veins is sufficiently coagulated to justify their division, and the removal of the needle. This is readily effected by insinuating a narrow, sharp-pointed bistoury underneath the vessels, with its back towards the needle.

Should symptoms of inflammation arise after the operation; or, in other words, should the parts become red, tender, and swollen, recourse must be had to antiphlogistics, and to the application of cold water, or solutions of acetate of lead and opium. The patient may usually sit up in five or six days, and in a few more he may be permitted to walk about.

The little wound soon cicatrizes; and the induration, caused by the coagulation of the blood between the testis and the seat of the constriction, gradually disappears by absorption. The period required for this rarely exceeds a month.

The advantages of the above operation are, first, its perfect simplicity and the facility with which it may be executed; secondly, its freedom from pain and hemorrhage; thirdly, the certainty with which we may avoid injury to the spermatic artery, duct, and nerves; fourthly, the little inconvenience or suffering which the patient experiences after it has been performed; and fifthly, the rapidity of the cure. These considerations will, I think, be found sufficient to recommend this method to the favourable notice of practitioners. Most of the operations described in the books are complicated, severe, and dangerous.

It occasionally happens in this affection that the scrotum is very flabby and pendulous. When this is the case the cure will hardly be complete unless the surgeon retrenches the redundant structures. I have been obliged to resort to this expedient only once in my operations. A portion of scrotum, nearly of the size of a large hand, was excised with the scalpel, and the wound closed by the continued suture, which I consider far preferable, under such circumstances, to the interrupted or twisted.

Louisville, Ky., *July*, 1848.

ART. VII.—*Contributions to Pathology: being a report of fatal cases taken from the records of the U. S. Naval Hospital, New York.* By W. S. W. Ruschenberger, M. D., Surgeon U. S. Navy; Fleet Surgeon for the U. S. Squadron on the East India Station.

On the first of April, 1847, the U. S. Ship Vincennes, after a cruise in the East Indian and Chinese seas, arrived in the port of New York. The crew had suffered severely from tropical dysentery, and those men who were attending to duty were considerably enfeebled, either by disease or extra labour imposed on them in consequence of the number sick and therefore unable to work. Of a crew of about 180, thirty-five were admitted into hospital, suffering from chronic disease; of this number, twenty-two were affected with dysentery. Of the latter, nineteen were cured, one was discharged very much improved, and two died.

CASE I. *Dysentery complicated with Pneumonia.*—Daniel Green, gunner's mate, ætat. 55, received from the U. S. Ship Vincennes April 2, was admitted for treatment on board, January 7th, 1847; had been complaining two months previously: while on board, he was treated with mercurials, opiates and topical depletion.

Emaciated; sallow, dry, harsh, shriveled skin; tongue dry, smooth, striped longitudinally, florid; pulse regular, small, feeble, 76. Milk diet. *P. M.* ℞.—Ipecac. pulv. gr. ij; opii tinct. gtt. xxv; aq. font. ℥ij. M. ft. haust. h. s. s.

April 3*d.* Frequent small stools during the night; feels better this morning. ℞.—Cupri sulph. gr. ss; gentianæ ext. gr. iss. M. ft. pil. cap. q. q. 4ta horâ. *P. M.* Frequent stools during the day. Repeat "Ipecac. draught" of last evening.

4*th.* Thinks he is better; frequent small stools, with tenesmus during the night. Suspend sulph. cupri. ℞.—Creta ppt. ℥ss; krameriæ ext. ʒij; acaciæ pulv. ℥ss; aq. font. q. s. ft. ℥vj. M. cap. ℥ss q. q. 3tia horâ. *P. M.* No change; medicine to be exhibited every second hour. Repeat "Ipecac. draught" at bed time.

5*th.* Nausea; has vomited; stools less frequent; persist. *P. M.* Ipecac. draught h. s. s.

6*th.* Slowly improving; inf. lini *ad lib.* *P. M.* Persist. ℞.—Pulv. piper. angustifol. grs. v q. q. 2da horâ. ℞.—Pulv. ipecac. gr. ij; tinct. opii ♏xx; aq. camphoræ, aq. font., āā ℥j. M. ft. haust. h. s. s.

7*th.* Constant desire to stool; stools feculent, yellow, without blood. *P. M.* Thinks he is much worse; complains of tormina; asks to have his will made. Persist; repeat draught of last night.

8*th.* No change. Chicken broth in lieu of mush and milk. Suspend piper angustifol. *P. M.* Feels better; complains of cough. ℞.—Sol. sulph. morphiæ ʒj; h. s. s.

9*th.* Complains of hard dry cough, which keeps him awake and exhausts his strength. Stools much less frequent; evacuations fecal, of a light yellow colour. Suspend cretaceous mixture of the 4th. ℞.—Sol. sulph. morphiæ ʒvj; mucil. lini q. s. ft. ℥vj. M. cap. ℥ss q. q. 2da horâ. *P. M.* Three stools in the past twelve hours; cough less troublesome; feels much better.

10*th.* Feels very much better; very little cough. Persist. *P. M.* Three fecal evacuations in twelve hours. Ipecac. draught h. s. s.

11*th.* During last evening, was very irritable; delirious through the early part of the night; walked about the ward until between two and three o'clock A. M., when he laid down. Expired tranquilly about four o'clock A. M.

Autopsy nine hours after death. *Thermometer* 68° F.—Body very much emaciated; œdema of the feet and legs; abdomen inelastic and sunken.

Head not examined. *Thorax.* Lungs did not collapse; extensive but not very firm pleuritic adhesions on both sides; pleura adherent to pericardium. In the apex, and also in the upper portion of the middle of left lung, there were cavities, each containing about an ounce of dark, olive-coloured, offensive matter. The parietes of these cavities were covered by an exudation of lymph. Lung distended, and filled with frothy serum, and studded with small blackish tubercles. The right lung more crepitant than the left; the upper lobe studded throughout with tubercles, and distended with serum: texture of both lungs softer than usual.

Heart. Size normal; weight 9¼ ounces, and its substance preternaturally soft. The right auricle very much attenuated, very transparent, and seemed to be formed almost entirely of serous membrane. The pericardial sac contained about two ounces of serum of the colour of olive oil, which was found to be highly alkaline, and quickly coagulable by heat, and by

the addition of nitric acid. Parietes of right ventricle $\frac{3}{10}$ths of an inch thick; of the left, $\frac{7}{10}$ths of an inch, and the septum ventriculorum $\frac{9}{10}$ths of an inch in thickness. The mitral valves were thickened and studded with cartilaginous deposits; and ossific deposits were found at the origin of the aortic valves. The internal diameter of the pulmonary artery was $\frac{8}{10}$ths of an inch; of the aorta, at the origin of the innominata, $\frac{1}{2}\frac{9}{0}$ths of an inch, and, immediately beyond the origin of that vessel, $\frac{8}{10}$ths of an inch: the internal diameter of the innominata at its base was $\frac{7}{2}\frac{}{0}$ths of an inch.

Abdomen. Omentum free from fat; peritoneum thickened, and readily separable from its attachments. *Liver* was of normal size, but its substance soft and friable; the upper surface was marked by numerous, white, stellate spots, and, near the left extremity, covered with white, thickened granular membrane. The gall-bladder which adhered closely to the colon, contained four ounces of thin lemon-coloured bile. The *spleen* was small and hard. The *stomach* was normal in size and external appearance; the mucous coat firm. Near the pylorus the coats were generally thickened, and close to the pyloric orifice, which was considerably contracted, was a heart-shaped ulcer, about a quarter of an inch in diameter. The coats of the duodenum were thickened, and the internal diameter of the intestine considerably diminished, but the glands of Brunner were not discernible. The small intestines were not remarkable; but the mesenteric vessels were injected, turgid. The *colon* was contracted in its diameter; its parietes very much thickened, the mucous coat of a dark slate colour, and its whole surface thickly set with large ulcers. The mucous coat of the rectum was injected, but not ulcerated. The left kidney weighed $6\frac{1}{4}$, and the right $5\frac{3}{4}$ ounces avoirdupois. The left kidney was peculiar in shape, the anterior face being flattened, and the upper extremity of it truncate. The bladder was distended; its coats were thickened.

Remarks.—The above case is from notes by Assistant Surgeon Joseph Hopkinson.

As far as we are informed, this man had been suffering more than three months from disease of the intestines exclusively, that is, if we are to rely upon symptoms. But on the sixth day after his admission into the hospital, and four days before death, he complained of cough for the first time; and this symptom of abnormal condition of some portion of the respiratory apparatus, is reduced, if not subdued, in the course of forty-eight hours, which might lead the practitioner to conclude, there was no serious affection in the lungs; the whole of the symptoms pointed to the abdomen as the site of disease, and in its viscera alone we were to look for the causes of the symptoms noted. But instead of finding evidence of serious abdominal disease, resulting from more than one attack of dysentery within the tropics, we find cavities and tubercles in the lungs, which were in the second stage of pneumonia. The condition of the lungs, as revealed after death, seems to be incompatible with a pulse of only seventy-six beats in the minute. This observation was carefully made. It is not presumable that the pathological condition of the lungs was the result of abnormal action of a brief period, of a few days, commencing when cough was first noted. It is probable there were symptoms indicative of disease in the lungs, but no

complaint being made by the patient which drew attention to them, and the symptoms of abdominal affection being so prominent in the case and prevalent in the ship, the former were not noticed, or noted.

Case II.—*Dysentery.*—*April 2d*, 1847, *P. M.* Joseph Smith, seaman, ætat. 35, received from the U. S. ship Vincennes, "affected with chronic dysentery." He was admitted for treatment on board that vessel, February 27th; had suffered two previous attacks of dysentery; had been convalescent two weeks, when, in consequence of an error in diet, he suffered a relapse two days before his arrival at New York. The treatment on board consisted of topical bleeding by leeches, opiates and mercurials.

Says he has been suffering during four months, but did not go on the sick-list till about four or five weeks ago. Skin dry and harsh; tongue furred in patches, tip and edges red and dry; pulse full, very soft, 120. The whole abdomen very tender, sensible to the slightest touch. Constantly on the close-stool, tenesmus; stools muco-sanguineous; no appetite. Has pain occasionally shooting through left side, but not constant. On the left side of the chest, throughout the lateral, superior and inferior mammary regions, there is dullness on percussion; over the left superior and inferior mammary, and left lateral regions, a fine crepitus is heard. He has very little cough, and no expectoration; says he has vomited several times. Fever diet, gum-water for drink. ℞.—Acid. nitric. gtt. xx; tinct. opii gtt. xl; aq. camphoræ q. s. ft. ℥iv. M. cap. ℥ss q. q. 2da horâ.

April 3d. Suspend mixture of aq. camph. ℞.—Fol. piper angustifol. (matico) ℥j; aq. font. q. s. displ. Oj. Cap. ℥ij q. q. 2da horâ. Arrow-root, pro re natâ. *P. M.* Stools less frequent; less tenesmus; tongue heavily coated in the centre with scarlet tip and edges, which are dry. Arrow-root and water were rejected this morning; ate a few spoonfuls of clam soup, which the stomach retained. Continue matico. ℞.—Pulv. ipecac. gr. j; tinct. opii gtt. xxv; aq. camphoræ ℥j. M. ft. haust. h. s. s.

4th. Slept well during the early part of the night; since three o'clock, A. M., stools frequent, discharges small; several paroxysms of gagging; vomited once. Continue inf. matico. Apply to abdomen cotton wool, and cover with oiled silk. ℞.—Pulv. piper angustifol. ℥ss q. q. 4ta horâ. *P. M.* Four stools since morning visit; ate some clam-soup, which seems to suit his stomach. A suppository of opium (four grains) was administered at two o'clock P. M., and retained an hour.

5th. Thinks he was up every five minutes during the night; discharges very small, less bloody, and of a darker colour; constant pain in loins and over the whole abdomen. Suspend inf. matico. ℞.—Tinct. opii ℥j; mucil. amyli ℥ij. M. ft. enema—rep. p. r. n. *P. M.* Ipecac. draught h. s. s.

6th. Stools less frequent; discharges dark coloured and frothy; no tormina, very little tenesmus; tongue cleaner; pulse full, soft, 112; countenance brighter. *P. M.* Improves. ℞.—Pulv. ipecac. grs. ij; tinct. opii gtt. xl; aq. camphoræ, aq. font. ää ℥j; M. h. s. s.

7th. Frequently up during the night; discharges of a dark brown colour, offensive, liquid, with a dark coffee-grounds-like deposit. The aggregate average daily discharge from the bowels does not exceed a pint. Tongue has a skinned look, but is neither so dry nor red as it was. Persist. *P. M.* Ipecac. draught h. s. s.

8th. As on yesterday. ℞.—Plumb. acetat. gr. xij; ipecac. pulv., opii pulv., ää grs. vj; M. ft. pil. xij; Cap. j q. q. 2da horâ. Suspend pulv.

matico (of 4th). He thinks it increases the tormina and tenesmus. Resume inf. matico (of 3d). *P. M.* More comfortable; ipecac. draught h. s. s.

9*th.* Prostrated: eyes heavy, sleeps with them partly closed; frequent watery stools; occasional discharges of liquid red blood. Has eaten nothing except gum water for two days. Essence of beef p. r. n. ℞.—Tinct. opii gtt. xl; mucil. amyli ℥ij. M. ft. enema. *Noon.* Hiccough; inattentive; roused with difficulty. 3 *o'clock P. M.* Repeat enema. *P. M.* Six discharges since last note.

10*th.* Suspend inf. matico. ℞.—Plumb. acetat. grs. xij; opii pulv. grs. vj. M. ft. pil. vj; cap. j q. q. 3tia horâ. *P. M.* Had six evacuations in the last twelve hours, very thin, resembling the *lotura carneæ;* tongue bright cherry red, dry and smooth; tenesmus. ℞.—Pulv. opii gr. vj; axungiæ ℈ij. M. ft. suppositorum.

11*th.* Evacuating with coffee-grounds-like deposit every half hour. Hope's mixture q. q. horâ. ℞.—Tinct. opii gtt. xl; mucil. amyli ℥ij; M. ft. enema; rep. q. q. horâ. Flour-ball diet. *P. M.* Suspend pills of 10th. ℞.—Ol. ricini ℥j; tinct. opii gtt. xx; vitel. ovi j; sacch. alb. ℥j; aq. camph. q. s. ft. ℥iv. M. cap. ℥ij q. q. 6ta horâ.

12*th.* No change; persist. Cold custard. *P. M.* Pulse 124; skin comfortable. ℞.—Ol. valerian. gtt. iv; gum tragacanth. q. s. M. ft. pil. iv; cap. i q. q. h. Alum whey ℥ij q. q. 2da horâ. Emp. lyttæ 6 in. × 6 to abdomen.

13*th.* Blister removed before vesication was complete; took two of the valerian pills; tongue moist, cleaner; pulse 112; feels better. *P. M.* Feels better; had slight nausea this afternoon; stools more consistent; retains flour-ball diet. One valerian pill every hour until three are taken. ℞.—Sol. morphiæ sulph. ℥j h. s. s.

14*th.* Vomits yellow bile occasionally; passes stools in bed; they are fecal, consistent, bloody; hiccough. ℞.—Argent. nitrat. gr. ¼ in pil. q. q. 3tia horâ. Suspend valerian pills. ℞.—Ol. valerian. gtt. ij; sacch. alb. grs. x; aq. camph. ℥j. M. cap. ℥ij p. r. n. *P. M.* Vomiting continues; blister has vesicated; rennet whey in place of alum whey, lime-water and milk occasionally. Morphiæ acetat. gr. j, to denuded cuts.

15*th.* Sleepless night; tongue dry, shriveled; stools brown, liquid; vomiting and hiccough continue. Inf. salviæ for drink; continue pills of nit. argent. *P. M.* No change: ℞.—Tinct. valerian., sol. morphiæ sulph., āā ℥j; aq. camph. ℥j; sacch. alb. q. s. M. ft. haust. h. s. s.

16*th.* Slept pretty well last night. Sinking. Brandy and water; cretaceous mixture. Died at half past six o'clock P. M.

Autopsy seventeen hours after death. Thermometer 68° F.—Body rigid, emaciated. *Lungs* and *heart* healthy; pericardium contained about two drachms of serum. *Abdomen.* Omentum very much injected and adherent in the left iliac fossa, and to the colon throughout its whole course. *Liver* pale and softened; *gall bladder* nearly empty. *Spleen* adherent to left kidney. *Stomach,* normal in appearance and size; mucous coat firm; near pyloric end was a pediculated, dark-coloured tumour of cartilaginous consistence, measuring a quarter of an inch long by one-eighth of of an inch in diameter. Pyloric orifice and duodenum thickened; glands of Brunner well marked and healthy; small intestines distended to twice their normal diameter. *Colon* covered by the thickened omentum throughout its extent, seemed as if rolled up in it: on cutting through this envelope, the great intestine was found to be a mass of softened, dark, slate-

coloured tissue and pus, at several points completely perforated by ulceration; the gut readily tore transversely almost by its own weight. Yellow fecal matter was found smeared over the inferior part of the cavity of the peritoneum: the sigmoid flexure was bound down in the iliac fossa by thickened omentum, as if an effort had been made to prevent extravasation at that point.

Remarks.—The above case is from notes by Assistant Surgeon Joseph Hopkinson. It might be regarded as illustrative of the termination of dysentery, after several attacks in tropical climates, where a first attack is not generally difficult to cure.

Case III.—*Pneumonia.*—Charles L. Gerou, landsman, æt. 36, native of the city of New York, received from the U. S. ship North Carolina, February 13th, 1847, "affected with pneumonia." Surgeon Barrabino (of the U. S. ship North Carolina) states that Gerou was admitted to treatment for pneumonia on the 26th January, and from the first, the case was unpromising. He was treated by general blood-letting, saline laxatives, nitrous powders, and counter-irritants to the chest. The patient sank rapidly, and was revived by the active employment of diffusible stimulants and general frictions. It was ascertained, after venesection had been practised, that the patient was habitually inebriate. On the 1st Feb., the expectoration was bloody and frothy. He was using as an expectorant, a mixture of senega, tolu and gum ammoniac; as diet, essence of beef and porter.

Feb. 2*d.* Delirium had subsided, and liq. ammon. acet. was substituted for the ammoniac mixture; a grain of calomel, with two of powdered squill, was taken every two hours. From this time the patient seemed to improve; there was very little wheezing, and the expectoration was copious, yellow, and thick.

13*th*, *P. M.* Very much fatigued by transportation from ship to the hospital. Tinct opii camph. ℥ij. h. s. s.

Feb. 14*th.* Slept very little. Emaciated; very feeble; cough troublesome; expectoration very tenacious, tinged with blood; pulse soft, small, 100; respiration laborious; mucous râle heard at some distance from the patient. Chicken and chicken soup. ℞.—Potassi iodid. ℥j; aq. dest. ℥j; bals. tolu ℥j; syrup. prun. virg. q. s. ft. ℥iv. M. cap. ℥ss q. q. 4ta horâ. *P. M.* Pulse 112; respirations 40. Dry cups to chest. Inf. lini *ad lib.*

15*th.* Slept better; more comfortable.

18*th.* Dry cups were occasionally applied, and anodynes at night. Respiratory sound distinguished in lower part of right lung, which up to this date seemed to be solid. *P. M.* Accelerated pulse; respiration hurried. Dry cups to chest.

22*d.* Respiratory murmur and small crepitus under right nipple, where, until this date, respiratory sounds were totally inaudible.

26*th.* Has suffered at different times, in the past four days, from pain under right scapula, frequent and laborious respiration; pulse soft, feeble, 120 to 130. Fluid accumulated in the trachea, causing loud râle. Stimulating expectorants and anodynes were employed. To-day feels more comfortable; passed a good night. *P. M.* Respiration more hurried; pulse feeble; skin dry; no pain; whole of right chest dull on percussion; no respiratory sound. Dry cups to chest. Pulse 140. Wine whey.

28*th.* Slept considerably; skin comfortable; pulse 96; cough much diminished; some appetite.

March 2*d.* Seems to be improving. 3*d.* Not so well; pulse 96; respiration hurried. ℞.—Hydrarg. c. creta ʒj; pulv. scillæ ℈j; pulv. digitalis gr. x; ext. gentianæ q. s. M. ft. mas. et in pil. xx. divid. cap. j q. q. 4ta horâ. *P. M.* Enema to open bowels.

4*th.* Surface pallid; bathed in perspiration; countenance anxious; pupils dilated; respiration hurried; pulse very feeble, 100; whole of right chest dull; no respiratory sound. Ale and water freely; wine whey. *P. M.* More comfortable; pulse 80, soft, small, regular. During past week, decubitus on left side.

7*th.* Bronchial respiration and coarse mucous râle heard in right chest. Pulse 120.

8*th.* Seems to be sinking; drowsy; little expectoration; pulse 128. Port wine p. r. n. ℞.—Potassi iod. ℈j; aq. dest. ℥ss; syrup. prun. virg. q. s. ft. ℥iv. M. cap. ℥ss q. q. 4ta horâ. Asks for broiled ham.

10*th.* Inclined to sleep; slight mercurial fetor; pulse 128, stronger; scanty expectoration; no pain; feels better, decubitus on right side.

12*th.* Neither cough nor expectoration; thinks himself better.

13*th.* Slight expectoration; sputa very tenacious, yellow, spotted with blood.

15*th.* Feels much better; coarse mucous rhonchus on right side. *P. M.* Pulse 112; respiration 42, laborious.

17*th.* Expectoration more copious, and sputa less tenacious.

21*st.* Improvement daily noted since 17th. Decubitus on right side; pulse 104. Says he ruptured a blood-vessel about 13 years since, and was sick about three weeks: since that time has always slept on the right side. Percussion of whole of right chest dull.

24*th.* Restless; expression anxious; skin soft, temperature normal; pulse 126, anorexia. Suspend treatment. ℞.—Ammoniæ sesquicarb. gr. x; camphor pulv. gr. iv; aq. font. ℥ij. M. cap. ℥ss q. q. 3tia horâ. Weak milk punch; ℥ij of brandy to a pint of milk.

29*th.* Since 24th, no marked change. Surface sponged with tepid water several times, and essence of beef, and other articles of diet, prescribed to nourish. Slight passive hemorrhage from nostrils, for the last three days, never exceeding a drachm at once. Respiration 32; pulse 120. Thinks himself better.

April 1*st.* Has a bad sore; pulse 116; respiration 28; dress sore with ung. zinci carb. præcipitat.*

2*d.* Tongue dry and furred; slight epistaxis.

8*th.* Has taken nightly, spts. ether. sulph. comp. ʒj, since the first, in consequence of want of sleep. Pulse 114. Feels better; emp. saponis for bed-sore.

12*th.* Pulse 114, very feeble; expectorates mucus, mixed with red blood. *P. M.* ℞.—Ol. valerianæ, gtt. i. in pil. h. s. s.

13*th.* Slept well; more comfortable; copious muco-purulent, offensive expectoration. Mind wanders.

17*th.* No material change of condition; less delirious.

18*th.* Pulse 112, feeble; sputa mixed with red frothy blood; tongue dry; lips and teeth covered with sordes; subsultus; muttering delirium—sinking. 19*th.* Expired at four o'clock P. M.

* Finding that the article sold as impure carb. zinci, contained no zinc, or any salt of that metal, I caused an ointment to be prepared with the precipitated carbonate of zinc, made in the house, preserving the proportions of the officinal ointment. I am under the impression, after very many trials, that this substitute will be found advantageous.

Autopsy eighteen hours after death. Thermometer 68°.—Body rigid; *head* not examined. *Thorax.* Right side more rounded than the left. *Heart* and attachments weighed eleven and one-quarter ounces: the coronary vessels were distended with blood; about an inch above the valve, there was a spiculum of bone half an inch long, lying transversely in the coat of the aorta. *Left lung* collapsed; normal. *Right lung* seemingly very much distended; an incision into its anterior surface was followed by a jet of pus, which filled the whole of the right thorax; the lung was obliterated, with the exception of an anterior facing of condensed tissue. The cavity contained, by measure, thirteen pints and five ounces of laudable pus, and was lined throughout by a thick, strong, unorganized membrane, excepting a space over the fourth, fifth, and sixth ribs, where it was seemingly ulcerated through, leaving the ribs for two inches in length, in their whole circumference, bared of periosteum. *Stomach* very much distended with gas. Small intestines normal. *Colon* gradually contracted from the mesial line of the body, to the rectum, (also contracted,) where the external diameter of the gut did not exceed half an inch. The mucous surface was healthy. *Right kidney* weighed nine and a-half ounces, and the left eight ounces: the cortical portion of the left kidney was the seat of an urinous abscess; and in its pelvic portion, and imbedded in the expanded mouth of an infundibulum, was found an irregular crystalline mass, weighing sixty-one grains. Being sawn through, the mass was found to be soft, and to consist of concentric layers. Chemical examination showed it was composed of uric acid, zanthic oxide, traces of phosphate of magnesia, phosphate of lime, oxalate of lime, and free oxalic acid.

The contents of the vesiculæ seminalis were examined with a microscope, thirty hours after death, and seminal animalcules perceived in abundance, but not in motion.

Remarks.—The above case is abbreviated from notes by Assistant Surgeon Joseph Hopkinson.

This patient had been under treatment nineteen days on board ship, and in all eighty-three days. The case was carefully watched, but no sign of affection of the kidney, or anormal condition of the intestine, was observed.

Case IV.—*Disease of Colon.*—Irving, private marine, ætat. 22, native of Louisiana, received June 5th, 1847, from U. S. ship Ohio (recently from Vera Cruz), "affected with chronic bronchitis." Had been under treatment on board about three weeks. *P. M.* Bowels loose; milk diet. ℞.—Pulv. ipecac. gr. ij; tinct. opii gtt. xxv; aq. font. ℥ij. M. h. s. s.

June 6th. A good deal emaciated; loss of appetite; very feeble; chest resonant throughout; no anormal sounds noted; expectoration frothy; frequent yellow, watery discharges from the bowels; no pain. Desires something "hard" to eat, as he cannot relish fluids. Allowed an egg for dinner. ℞.—Acid. nitric. gtt. iij; pulv. ipecac. grs. ij; pulv. opii gr. i; aq. camphoræ, aq. font., ää ℥j. M. ft. haust. h. s. s.

7th. Two greenish stools during the night; chicken for dinner. *P. M.* Cough troublesome. Repeat draught of yesterday. ℞.—Tinct. opii comp. ℥ij h. s. s.

9th. Improves; tongue pale, clean; coughs less; suspend draught of the 6th. ℞.—Creta ppt. ℥ss; acaciæ pulv. ℥ij; ext. krameriæ ℥j; aq.

cinnam., q. s. ft. ℥vi. M. cap. ℥ss q. q. 3tia horâ. *P. M.* Three stools in the past twelve hours: does not relish food.

10*th.* Six stools in twenty-four hours; very much prostrated; entire loss of appetite; tongue pale; thirst; skin dry and harsh; pulse quick, feeble, small, 104. Gum water *ad lib.* ℞.—Plumb. acetat. grs. viij; opii grs. iv. M. ft. pil. iv cap. j q. q. 6ta h.

11*th.* Complains of exhaustion; anticipates speedy death. *P. M.* Medicines, &c., nauseate—frequent stools; skin cool, harsh; tongue pale, dry, coated; pulse very feeble. Suspend medicine. Sherry wine ℥ij p. r. n. ℞.—Carb. ammoniæ ℥j; aq. font. ℥vj; sacc. alb. q. s. M. cap. ℥ss q. q. 2da h.

Tranquilly expired at 11½ o'clock P. M.

Autopsy fourteen hours after death. Thermometer 76° F.—Body emaciated; *head* not examined. *Thorax.* Heart and pericardium normal; mitral valves slightly thickened. *Lungs* were grayish, and partially collapsed, and the pleura covered by a thick, adhesive, oily exudation; the lower lobe of right lung very completely congested; a few scattered tubercles were found in the lower lobe of left lung. *Abdomen.* Liver, spleen, pancreas, and kidneys normal; gall-bladder distended with healthy bile. The *stomach* exhibited a partial hour-glass contraction; its mucous membrane healthy. The arch of the colon was contracted and thickened as far as the left descending portion, which was of normal size for six inches of its length, and then was again contracted and thickened to its termination at the anus. The mucous membrane was of a dark purple colour; the valvulæ conniventes were almost obliterated. The caput coli was normal in size; but its mucous lining was almost black; just above the colic valve, there was an ulcer in the ilium, half an inch in diameter. The mucous coat of small intestines was perfectly smooth. About three feet from the caput coli, the upper portion of the ilium invaginated two and a-half inches of the lower; a similar invagination, to the extent of four inches, was observed in the jejunum: both probably took place *in articulus mortis*, or *post-mortem*, as no adhesions or marks of inflammatory action were observed.

Remarks.—The above case is from notes by Assistant Surgeon Joseph Hopkinson.

The patient was supposed to be in the last stage of tubercular phthisis on board ship; his general aspect, cough, emaciation, warranted the belief, and seemed to place the abdominal viscera beyond suspicion. The thoracic affection was probably secondary to chronic irritation or inflammation of the colon. The patient was a young man who "had seen better days," and got "out at the elbows" by constantly "putting the best foot foremost;" he had led an irregular life of intemperance at the tables of *bons vivans*, and subsequently with more gross companions, until he enlisted in the marine corps, where he necessarily led a more regular life. He had been about one year in the service.

Case V.—*Disease of Heart and Colon.*—John Maul, seaman, ætat. 47, native of Delaware, received from the U. S. ship Ohio, June 5th, 1847, "affected with dropsy." Has a bad cough, congestion of the lungs, and œdema of legs; has been treated by hydragogues and bandages.

P. M. Ascites; legs and thighs œdematous; bowels constipated; pulse 104. Low diet; drink inf. juniperi baccæ. ℞.—Hydrarg. c. creta ℥j; scillæ pulv. ℈j; digitalis pulvis gr. x. M. ft. mas. et in pil. xx dividend. Cap. j. q. q. 4ta horâ. *Half-past ten o'clock P. M.* Cannot lie down; when erect, fancies he hears a dropping of water in his chest; cannot sleep. ℞.—Pulv. jalap. comp. ℥iss; ol. valerian. gtt. iij; aq. font. ℥iij. M. s. a. s. s.

June 6th. Slept very little; sallow; eyes dull, heavy; pulse 92; tongue lightly coated, edges clean, friction and bellows-sound of heart. Bowels slightly moved. Has voided, in sixteen hours, 3½ ounces of deep-coloured, transparent urine, which has left a whitish deposit; sp. gr. 1·038, reddens litmus, unaltered by heat; rendered darker in colour, and opaque by addition of nitric acid; after being acidulated with acetic acid, it becomes turbid on adding a solution of deuto-chlor. hydrargyri. Urine not albuminous.

There is a strong double pulsation behind the right sterno-cleido-mastoid muscle, just above the clavicle. ℞.—Pulv. jalap. comp. ℥i. *P. M.* Complains of cough; bowels freely moved. ℞.—Potassæ bitartrat. ℥ss; aq. font. Oij; sacch. alb. q. s. M. *ad lib. sum.* ℞.—Tinct. digitalis gtt. xxx; spt. æther. nitros. ℥j; tinct. opii camph. ℥ij; aq. font. ℥ij. M. ft. haust. h. s. s.

7th. Voided three ounces of high-coloured urine; slept badly. ℞.—Potassæ bicarb., sodæ bicarb., āā gr. x; spts. ammon. aromat. gtt. xxx. M. ft. haust. s. s. *P. M.* Repeat draught; chicken soup.

8th. Slept well, although troubled by cough; urine scanty. *P. M.* Pulv. Seidlitz q. q. h. ad deject. alv. ℞.—Tinct. digitalis gtt. xl; tinct. valerianæ ℥ij; aq. font. ℥ij. M. ft. haust. h. s. s.

9th. Last night had severe pain in lower part of abdomen; relieved by a purging enema. *P. M.* Feels more comfortable; repeat enema.

10th. Feels better; bowels not moved this morning. ℞.—Magnus sulph. ℥j; magnus. carb. ℥j; aq. font. ℥viij. M. cap. ℥iv q. q. 6ta horâ.

11th. More comfortable; states that distension of abdomen was noticed for the first time about six weeks ago: pulse 88, mush and milk. *P. M.* Dyspnœa; very much oppressed; flatulent. ℞.—Pulv. opii et ipecac. gr. x h. s. s. Ol. terebinth. gtt. x, on a lump of sugar, p. r. n.

12th. No change: persist. *P. M.* Paroxysms of coughing; oppression, pulse soft, regular. ℞.—Ol. ricini ℥iss; ol. terebinth. ℥ss; vitel. ovi j; sacch. alb., acaciæ pulv., āā ℥ij; aq. menth. q. s. ft. ℥vj. M. cap½ ℥ss q. q. 2da horâ. 8 *o'clock P. M.* Cough very distressing. ℞.—Aq. camphoræ ℥ss p. r. n.

13th. Feels much better; seven or eight very copious scybalous evacuations from bowels; abdomen less distended; pulse 88, soft, regular; tongue clean; slept well during the last of the night and this morning; mouth sore. Suspend mixture. *P. M.* ℞.—Ol. valerianæ, gtt. iv in pil. h. s. s.

14th. Abdomen more distended, but not to so great a degree as it has been. ℞.—Inf. salviæ for drink. *P. M.* Pain and oppression increased. *At seven o'clock P. M.*, paracentesis abdominis; drew off eight pints of cider-coloured alkaline serum, sp. gr. 1·018. Relieved. 8 *P. M.* Pain in right hypochondriac region, which was relieved by change of position. 8½ *P. M.* ℞.—Vini (sherry) ℥ij; tinct. hyoscyami ℥ij; spts. æther. nitros. ℥j; aq. font. ℥ij. M. ft. haust. s. s.

15th. Sore mouth; spat a little blood from mouth and fauces; voided a small quantity of high-coloured urine; oozing of serum from wound in

abdomen. ℞.—Piper. angustifol. ℥ij ; aq. font. q. s. disp. Oj. Wash mouth p. r. n. Suspend inf. salviæ. *P. M.* Bowels free; feels weak; supported in a bed chair; dyspnœa slight. Repeat draught of last night. 8 *P. M.* ℞.—Nitrat. potassæ ℥ss ; lupulinæ ℥j. M. div. in chart. vj. M. cap. j q. q. 6ta horâ.

16*th.* Constipated ; no headache; pain in right ear; harsh, loud, painful, dry cough ; mouth oozes blood occasionally ; respirations 40; pulse 120 ; eyes dull, heavy; no pain in abdomen. Dry cups to chest. Inf. cort. ulmi for drink. Suspend inf. juniperi.

17*th.* Allowed to eat a salad. Add acid. sulph. aromat. ℥j to pint of inf. cort. ulmi. 5½ *P. M.* Ice water. 11 *o'clock P. M.* Friction sound of heart heard standing at the bedside. Emp. lyttæ 4 × 6 in.

18*th.* *One o'clock A. M.* Feels comfortable; sitting up ; countenance anxious ; pulse 60. Died at four o'clock A. M.

Autopsy nine hours after death. *Thermometer* 72° F.—Body relaxed; subcutaneous cellular tissue slightly injected with serum ; capillaries pour out thin watery blood at every incision. Free of fat ; abdomen tumid; lower extremities œdematous.

Head not examined. The tumour on the right side, beneath the clavicular insertion of sterno-cleido-mastoid muscle, which had a double pulsation during life, proved to be a varicose enlargement of the jugular vein, resting in the bifurcation between the right carotid and right subclavian arteries, so that the varix received an impulse at the same instant from the two arteries, but in opposite directions. Several enlarged lymphatic glands in the vicinity probably aided to increase the motion.

On raising the *sternum*, (some of the cartilages required to be sawed through,) the internal mammary artery was observed to be much enlarged. The lungs did not collapse. *Right lung* adherent by old and strong bands to costal pleura ; congested, but crepitant. *Left pleura* thickened. Reddish-coloured lymph, a line in thickness, covered the root of the great vessels. The anterior surface of pericardium was opaque and thickened, and marked on the internal surface, near the vessels, by bright red spots, a quarter of an inch in diameter. The pericardium contained about three ounces of dark, slightly turbid serum ; a clear, straw-coloured serum filled about a third of the cavity of each pleura. The *heart* very much enlarged; its tissue pale and soft ; parietes of normal thickness ; its weight, after removing pericardium and washing, was 19½ ounces avoirdupois. All the valves were competent to close their respective openings, which were preternaturally large ; all the valves were thickened, but not rigid. Interstitial deposits rendered the internal face of the aorta rough ; internal surface of descending aorta was of a deep rose colour. *Abdomen.* Liver somewhat enlarged ; tissue rather dense ; incision presented a yellow mottled appearance. Gall bladder distended with dark-coloured bile. Stomach, spleen and pancreas normal. Kidneys large ; tissue normal ; left kidney weighed 7½ ounces avoirdupois ; omentum free of fat, corrugated, and seemed as if it were tucked under the colon. Peritoneum injected ; patches of lymph were observed at several points on its surface. Caput coli loaded with grayish pultaceous feces ; tissue dark purple, and its mucous lining almost black : ilium, several inches above the valve, darkly injected. Colon contracted gradually, and in the sigmoid flexure its coats were thickened, and its mucous lining was studded with chronic ulcers. Small intestines injected.

Remarks.—The above case is from notes by Assistant Surgeon Hopkinson. The case presents an instance of disease in the serous and mucous tissues advancing at the same time, either of which might satisfactorily account for the death of the patient, who was a man of strong, nervous, determined character, and capable of much endurance. The hydrothorax and heart-affection seemed to mask entirely the disease of the abdomen, and to withdraw attention from its symptoms.

U. S. Ship Plymouth, *Rio de Janeiro, May* 10th, 1848.

Art. VIII.—*Case of Hydrophobia, treated by Chloroform.* By H. Hartshorne, M. D.

Thomas Rogers, aged between twelve and thirteen years, was bitten by a strange dog on the 27th of 6th month, while attempting to prevent him from worrying some geese. The same dog, within a few hours, bit a young man named M'C——, without the slightest provocation. After running hither and thither, quarreling incessantly with other dogs about town, he was pursued by a crowd and killed in the street. M'C—— had the wounded part immediately excised. On the 29th I saw T. Rogers' wound, which was upon the wrist of the left arm, consisting of one deep tooth puncture, which had bled largely, and a scratch, which had scarcely bled at all. I urged upon his father the propriety of excision, even at that time, the second day after the injury; but he obstinately refused consent. He then proposed applying a blister, which I encouraged, and left the case.

About three weeks after, I called to inquire about him. The wounds had healed perfectly; the boy was in excellent health and spirits.

On the 17th of 8th month, I was sent for, and Dr. Spackman was also called. We were told that he had been sick several days; had been drooping on Saturday; on Sunday had pains in his back, then in his sides, then his arms and legs, and his head—flying from part to part; had fever on Sunday night. Then, or on Monday, he asked for a drink; but when it was brought, refused it. His mother threatened a whipping, and he swallowed some, though with difficulty, having "a catch in his throat." This difficulty was now observed repeatedly, and his mother, "thinking it was a caper," scolded him for it. He burst out crying, and said, "Mother, I can't help it." He had burning fever on Monday. The next day, in fanning away the flies, they noticed that he gasped or sobbed spasmodically when the air was thus moved over his face. He complained of pain in the left arm, above the elbow, and his mother found a "kernel" in the axilla. Now the dog-bite was remembered, and a quack, agent for one "Dr. Stoy," was sent for. He brought his "certain cure" decoction, and it was administered. On Wednesday night the boy had raging delirium; he was never entirely rational, I gathered, since Tuesday, if not from a still earlier time. I should have mentioned that on Sunday he took six grains of calomel, followed by castor oil, which operated well.

We found him delirious, though not violent; with a feverish pulse and

hot skin, though covered with sweat; decidedly salivated, with some swelling of the soft parts about the jaw, and a tongue covered with yellowish brown fur. His state was one of stupidity, with open and watery, though heavy eyes, somewhat like the expression of the excited stage of intoxication. The most striking type, however, of his physiognomy, was that of a kitten which I had seen poisoned with a decoction of kalmia.

Unwilling yet to believe it hydrophobia, I supposed the existence of remittent fever, with salivation by medicine. I offered him cold water in a teaspoon, and he swallowed it without noticeable difficulty, whilst lying on his back. Dr. Spackman had seen hydrophobia before. He fanned the boy with his hat, and the sobbing spasm was produced. This excited his suspicions, from its similarity to the symptom he had observed in two other cases.

As he was costive for some days, an enema and a dose of cream of tartar and jalap were directed in the afternoon. His father now sat him up in bed, and offered him a bowl of water. He began to gasp at once, and after two or three forced swallows, gave it up, and sank back convulsively on the pillow. He can still drink with less difficulty from a spoon, and on his back. We see, therefore, no urgent *symptoms* but those of fever. Spiritus mindereri was prescribed, the hair cut short, and the room aired, avoiding an immediate draught on him, which would bring on the spasmodic breathing at once.

In the evening, rather more actively delirious. At midnight he complained to me of pain in his left arm, from the elbow to the arm-pit, "like cramp." He spoke of this two or three times afterwards, in the course of his illness, but it did not seem to be permanently predominant. The pulse increases in rapidity, and loses in force. The next morning there was no important change. The bowels not being acted on, a dose of salts was given. I also had a cataplasm of tobacco put around his throat, and left there all day.

The principal peculiarity, considering it as hydrophobia, was, that the symptoms were not mortally pressing, after an illness of four or five days. But it happens that nearly all the detailed cases have been in adults. Might not age modify the duration of the disease, as youth appears to have more vital resistance than mature age; for instance, under surgical injuries?

A dose of castor oil was required before defecation was produced. The tobacco did not make him sick. In the afternoon he was more talkative. The spasms, as before, on drinking or being fanned. A piece of lint, wet with strongest tinct. rad. aconit. and chloroform, was put over the throat, covered with oiled silk. Mr. Nunneley has made a plausible suggestion of the locally anæsthetic effects of this latter agent. (See *Med. News*, Aug. 1847.) I also began the internal use of chloroform in mucilage, my impression, from other trials, being that it simply reduces the vividness and force of all sensation. Half a dozen leeches were ordered behind each ear, to relieve the turgescence indicated by the dark flush of the face, throbbing, full temporals, and delirium.

At eight in the evening I found he had been worse from the time of the leeching, which had been only in part effected, on account of his struggles. He now fights, curses, and threatens us constantly; is *raging mad*. Once he declared he would bite me; but mostly throwing stones, using his nails —which he did once on one of his attendants—and setting his dog on us, were his fancied modes of combat. And it is a popular error to suppose

that biting is a peculiar propensity in the disease: angry, furious delirium is present, but it shows itself in the use of means and weapons customary and natural to the individual. His father persuaded him several times to try to drink. We succeeded in getting swallowed, with great difficulty, a few tablespoonfuls of chloroform mixture, and then the spasms increased to such a painful extent that it was impossible to get him to drink at all. Not only the muscles of respiration, including the diaphragm, but all the muscles of the neck were spasmodically contracted, throwing the head back for the moment as in tetanus; but, unlike tetanus, in the rigidity instantly disappearing when at rest. From the beginning to the end of the case there has been nothing which the shallowest observer could mistake for tetanus. He could at any time open his mouth wide and put out the tongue, and move his neck when not attempting to drink, or any limb or other part of the body, as readily as in health.

I now tried the inhalation of ether. The coldness caused by its evaporation near his lip, started the spasm every time it was freshly applied; and this finally caused him to resist it so obstreperously, that I was forced to give it up. He had, however, been considerably tranquilized by it. Dr. R. P. Harris was present this evening. The aconite and chloroform were renewed to his throat, and I left him, expecting to find him worse next time.

I went at eleven o'clock with my brother, Dr. E. Hartshorne, prepared to attempt the introduction of a stomach tube, as recommended from the experience of my father, to preserve a means of supplying liquid and nourishment. We found him, however, *asleep*, and he had been so almost since the last visit; but he could be easily roused. Gruel was offered him in a spoon, which at once excited the spasms and furious resistance. Fanning also produced the usual effect. But he had the appearance of being to some extent narcotized. An enema of tinct. opii ℥ss was ordered in case of a return of excitement.

He remained tranquil all night. At seven next morning he appeared decidedly better; pulse softer and less rapid, skin warm, now also dry, which has not been the case before. He is tractable, though wandering: and can drink gruel. I am reminded of the "deceptive remissions," occurring in cases described by authors.

He became worse again at ten o'clock; not so much with violence, as suffering. "It was *horrors* this time," his nurses said. I asked him if he was sleepy; "no, but I'm frightened; those bullocks are chasing me!" He cried bitterly, and had almost constantly the most distressed contortion of the features possible. The pulse is more frequent than last night. The pupil, now and at all stages of the disease, even to the last day, was *natural* in its contraction and dilatation. He can swallow small quantities at a time, to-day; gruel, water and chloroform mixture were given from time to time. Two injections of ℥ss laudanum each were used within two hours. No effect was produced by them, and at four o'clock he was still extremely restless, suffering terrors of apprehension. He cannot now be made to swallow. I began then the inhalation of chloroform, from a handkerchief. He was almost instantly quieted. In a few minutes the lips became slightly blue, and respiration lessened in force; it was then withdrawn, and colour returned. By repeating this whenever the struggling was renewed, I kept him under its influence, most of the time sleeping quietly, for about two hours. The same treatment was continued by an attendant, and another injection of ℥i laudanum was used on the return of uneasiness. He swallows no better, however, and sighs spasmodically

every few minutes. But it is a great end gained to be able thus to control his horrors and violence; if any agency promised hope of cure, it must be one which produces such mitigation and relief, not afforded, I believe, by any other remedial means. The tinct. rad. aconit. was again renewed to his throat.

In the evening he appeared still to be under narcotic influence; but the sighing is perhaps more frequent. Pulse 160. Able to swallow very little indeed. This state continued till near three the next morning, when he became wakeful, but tranquil and more rational than yesterday. Now, however, commenced a rattling in his throat, from the accumulation of thick ropy mucus in the fauces and trachea, which threatens to check respiration. Finding the pulse still capable, and that deglutition was improved, for the time, I obtained the presence of Dr. J. W. Wallace, Dr. Spackman, and Dr. E. Hartshorne, to consider the possibility of tracheotomy being called for. In the meantime, however, carbonate of ammonia and brandy-punch were given, and partial expectoration took place; Dr. Wallace was able to remove more of the obstruction by a sponge and forceps, and the operation was given up. The stimulation seemed for a while to improve his condition decidedly. In a few hours the throat was quite clear, after vomiting. But in the afternoon, with a still more rapid and feeble circulation, his violence and misery returned. He vomited repeatedly, and had two or three very offensive passages from the bowels. The chloroform was now longer in producing any effect; and then it did not so thoroughly control his restlessness as before. It was assisted by laudanum injections of ℥i at a time.

8½ *P. M.* He is in a profound sleep, pulse 175 in the minute, and feeble. He has been so since five o'clock, when he had, during my absence, an injection of ℥ss of laudanum, being then restless. He also breathed a little chloroform about that time. Fanning him now hardly excites any spasm; but occasionally he opens his eyes with a distressed expression; several times also stretching out the bitten arm, and holding it for some moments at full length.

At midnight my brother found the extreme sensitiveness to cold decided as before; a drop of water on the face causing a violent sob. This is satisfactory evidence that the narcotism has not been *excessive;* for who ever saw a person under the influence of opium evince *any* sensibility at all?

Dr. Spackman had observed this evening a new phenomenon, which was now very striking; it was *emphysema* of the cellular tissue around the throat.* It was swelled considerably, and crackled very distinctly under the finger. We had laid him on his side on the occurrence of vomiting, to prevent the ejection from passing into the larynx; and on account of the swelling of the throat, the head was now thrown backwards. But the muscles of the neck were repeatedly and carefully examined; and not the slightest rigidity was found.

He sank away quietly, and died without further spasm, at about half-past two on the morning of the 21st, having lived at least seven days since the commencement of hydrophobic symptoms. Like most or all of the cases described by Watson and others, it was not asphyxia, but asthenia which destroyed him; asthenia in this case was the direct effect of the peculiar poison; as the exhausting fatigue of his spasms and violence was prevented to a great extent by chloroform, and he was able to swallow some liquid

* In the autopsy of a previous case, Dr. Spackman had observed the existence of globules of air in the veins of the neck, and in those of the brain. Might this not suggest the hypothesis that the materies morbi is a gas-generating poison?

not many hours before death. I saw the corpse a few minutes after he expired, and found it nearly or quite as warm as in health; so that I requested delay in moving it. No post-mortem examination could be obtained.

The case had been seen by Drs. Spackman, W. Harris, R. P. Harris, E. Peace, E. Hartshorne, R. S. Woddrop, C. Wister, J. W. Wallace, and W. D. Stroud; most of them, however, while he was under the influence of chloroform.

To resume. The boy was thirteen years old. Was taken sick about six weeks after being bitten by a dog proved to behave as if rabid. Had high fever, which had no remission, and yet no characteristics of typhus or typhoid fever; he was not deaf; had no tympanitis; no petechiæ; but had throughout, excessive sensibility to impressions, particularly those of cold, and about the face; had a difficulty, at times incapability, of swallowing, caused by a spasm which made a violent respiration simultaneous with the attempt to swallow, and thus impeded the latter and endangered the passage of liquid into the windpipe; which symptom was constant, and belongs to no ordinary type of disease; had injections of laudanum, ℥ss or ℥j, repeated again and again with no effect: and breathed chloroform for hours, with only short intermissions, with no more effect than to tranquilize him, and produce natural sleep, from which he was, once at least, roused by a return of wild delirium: and yet had no sign whatever of tetanus: no possibility of mania-a-potû: and very little, and only occasional complaint of pain: which pain, when it occurred, except in the first stage, was in the arm which had been bitten by the dog; had also salivation, constant watering of the eyes, and finally vomiting: and whose delirium was, until quelled, of a malicious and furious character, or one of dread, horror, and distress: ending fatally at the end of the seventh day.

What name should be given to such a case? "Hydrophobia" is not appropriate, because in this and other cases they *desire* drink, but are incapable of benefiting by it: would not *dyspotia*, or rabies dyspotia (from δυς, and ποτος, drink), be more correct?

It is a highly important fact, that the inhalation of chloroform, persevered in at intervals, did master the violent delirium and horror of the case. Dr. Smiley of Philadelphia, and Dr. Stout of Easton, have already noticed the same effect; although their cases also were fatal. This removes, at least, one element of evil from the disease. And if any remedial agency can ever give hope of *cure*, it must be, when aided by other means, one which has such control over the symptoms, attained hitherto by no other medicine.

We were deterred from depletion by the lancet by the supposed analogy to tetanus, in which stimulation is mostly requisite and useful. But free bleeding is said to have effected one or two recoveries; and has *à priori* plausibility in its favour, as the disease is inflammatory both in symptoms and post-mortem appearances. We were unwilling to use counter-irritation to the spine, from the idea that death was certain, and that those means only were, therefore, justifiable, which lessened or did not increase suffering.

And the *early* resort to chloroform was prevented by respect for the doubts of those who at first were inclined to regard it as a case of fever.

With a distinct diagnosis, should another case present, in recollection of the mitigation already obtained—would not the practitioner be justified in commencing with venesection: using chloroform, with discretion, from an early period: and applying some powerful revulsive, aided by a narcotic, to the nucha? Dr. R. S. Woddrop proposed vesication, followed by the free application of a salt of morphia. Perhaps *acupuncturation with aconitina* might prove more powerful. This treatment has been found successful in obstinate neuralgia. I used a sort of cataplasm of tinct. rad. aconit. to the throat in the above case. An excessive sensitiveness to incident impressions, and consequently excessive motory action of particular muscles, *including the diaphragm* obviously in this case, as well as those of the throat, seems to be present. Remedies which lessen sensation are the ones, then, which may mitigate the disorder at least. In France, the vapour bath is asserted to have wrought a cure; its efficacy should be tried, and might be aided, as was contemplated in our case, by medication with such articles as tobacco, chloroform, aconite, to produce a powerfully antispasmodic fumigation of the whole surface of the body. Prof. S. Jackson advises bathing in warm oil. When swallowing is impossible, the stomach tube might be inserted through the nostril, as done by Dr. Joseph Hartshorne a number of years since, in the hospital; and life also supported by nutritious enemata.

But careful reflection will only deeply impress the conclusion, that with all the means that man can devise, the malady is one which affords less hope of cure, decidedly, than phthisis; and that prevention by immediate excision (or cauterization?) of the bitten part, is the only safeguard against its result.

ART. IX.—*A case of Fibrous Tumour of the Lower Jaw, in which the left half of that bone was successfully removed at the Temporo-maxillary Articulation.* By S. D. GROSS, M. D., Professor of Surgery in the Medical Department of the University of Louisville.

KITTY, a negress, nine years of age, was brought to me for professional advice, on the 2d of May, 1846, by her master, Mr. Lawton, of Rumsey, Kentucky. Eighteen months previously she punctured the left side of her face with a piece of wood, which she happened to have in her mouth as she fell, head-foremost, from a high fence. Some inflammation ensued, but this rapidly disappeared, and nothing further was thought of the acci-

dent until four months after, when a slight enlargement was noticed at the original site of the injury. This gradually extended until it involved the whole of the left side of the jaw, from the ear to within a few lines of the symphysis of the chin, and from the middle of the cheek to the upper part of the neck. The tumour, which had increased very much within the last four weeks, was very prominent, externally, and reached, at the time of my examination, when the head was held in its ordinary position, nearly down to the clavicle. Articulation and mastication were both very much impeded, and the jaw was so completely anchylosed that it was almost impossible to move it in any direction; indeed, the interval between the dental arches was so small as not to permit the protrusion of the tip of the tongue. The swelling was very hard externally, and towards the base of the jaw were two small points, which seemed to have been the seats of little abscesses, probably of a scrofulous character. In other respects, the skin was perfectly sound. Internally, the bone appeared to be healthy, and did not encroach upon the tongue. The tumour was at first free from suffering, but during the last month the girl complained of a good deal of pain, especially at night. The general health was unimpaired.

Such being the condition of the parts, it was obvious that nothing short of excision of a portion of the jaw could afford any relief. The operation was performed on the 5th of May, in the presence of Dr. Colescott and Dr. Thomas L. Caldwell, and a number of medical students. As a preliminary step, the body and limbs of the little patient were surrounded by a strong apron, carefully pinned behind, as in the operation for harelip. She was then seated upon a chair, with the head inclined a little backwards, and supported by an assistant. An incision was made through the middle of the lower lip to the base of the chin, and, at a right angle with this, another along the body of the diseased bone. The flap thus marked out was then dissected up, and the jaw sawed through a little obliquely, immediately by the side of the symphysis, so as to preserve the two incisors. An incision was then carried from the tragus of the ear to the termination of the horizontal one, already mentioned; the integuments were rapidly dissected up; the masseter, temporal, mylohyoid, and pterygoid muscles were successively separated from their attachments; and the bone was finally raised from its socket. Not a little difficulty was experienced in this stage of the operation, from the cartilaginous adhesions between the coronoid and zygomatic processes, the former of which was very much thickened, and forced the latter out in such a manner as to render the cheek quite prominent, in that situation. The temporo-maxillary joint was completely anchylosed, and the attachments formed by the condyle rendered the disarticulation almost impracticable.

A part of the submaxillary gland appeared to be changed in structure, and was accordingly removed. Several lymphatic ganglions of the neck were, for the same reason, excised. The operation was exceedingly pain-

ful; and, as I was about to disarticulate the bone, the patient swooned away. Scarcely six ounces of blood were lost, and, what is remarkable, not a single vessel required to be tied. The bleeding from the facial artery, which was divided in the early stage of the operation, was readily controlled by the finger of an assistant.

The tongue, stylo-hyoid muscle, and submaxillary gland were fully exposed by the dissection; the parotid lay at the posterior part of the wound; and the external carotid was seen pulsating just below the ear.

The operation being over, the wound was kept covered for nearly three hours with a thick linen compress, frequently wet with cold water. At the expiration of this period, the edges were brought together by six twisted sutures, and a few adhesive straps, the whole being supported by a thick compress and a roller.

Very little pain was experienced after the operation, and the patient slept comfortably during the succeeding night. On the following day there was slight fever, with some swelling of the left side of the face, but this yielded speedily to a dose of Epsom salts and cooling drinks. The needles were removed at the end of the third day, and the parts were found to be beautifully united, both externally and internally. Subsequently the temple and cheek were invaded by erysipelas, brought on, apparently, by premature exposure and improper eating. A dose of calomel and the application of the tincture of iodine, promptly put a stop to this disease; and from this time on, the convalescence was rapid and uninterrupted.

The tumour, on dissection, was found to be of a fibrous character, dense, inelastic, and of a dull whitish colour. The periosteum, from which it probably arose, was considerably thickened, and could be peeled off, without difficulty, from the subjoined bone. The bone itself was considerably enlarged, and a section of it exhibited a uniform, compact surface, with here and there a small elongated cell. The coronoid and condyloid processes were remarkably thick, and the latter had lost its smooth and polished appearance. The body of the bone contained a perfectly healthy molar tooth.

Upwards of two years have now elapsed since the above operation, and there is, thus far, no evidence whatever of any tendency to a relapse of the disease for which it was undertaken. Kitty's master has recently informed me that she is entirely well, that there is hardly any deformity of the face, and that she chews, articulates, and swallows with as much facility as any one.

Louisville, *Aug.* 21, 1848.

ART. X.—*Case in which unusual Phenomena followed the Administration of "Sulphate of Morphia."* By L. B. ANDERSON, M.D., of Elton, Hanover city, Va.

Miss V., a young and highly accomplished lady, from excessive fatigue, and loss of sleep in attending a sick friend, became so "nervous," to use her expression, that she was unable to procure the slightest repose. She laboured under slight cerebral disturbance, and a very irritable stomach, at the time I was called to see her; both of which, however, were measurably relieved by the operation of a mild cathartic. But she was unable, notwithstanding, to obtain refreshing sleep.

A fourth of a grain of the sulphate of morphia was now directed to be administered, and a like quantity to be taken every two hours, unless it increased the pain in the head, (which was the only unpleasant sensation she had ever experienced from its use,) until she became entirely composed, or fell into a sound and refreshing sleep. She experienced no unpleasant sensation from its use until shortly after the administration of the third portion, when she complained of a "*tingling*" or "*pricking*" sensation in the extremities. Her hands and feet became cold; her fingers were involuntarily contracted and extended; she experienced some uneasiness about the elbows and knees, and also, at times, a slight difficulty in breathing. The time for the administration of the fourth portion having arrived, she had it given, hoping that it might allay or mitigate those unpleasant sensations. A short time, however, only elapsed after its administration, before all the phenomena above mentioned became greatly aggravated. The muscles of the hands and feet became rigidly contracted; the legs were drawn upon the thighs, and they upon the abdomen: the arms were alternately flexed, extended, and then contracted across the thorax: the muscles of the tongue, fauces, and glottis, became so much affected, that articulation and deglutition were almost impossible, and respiration was greatly obstructed. In fact the spasmodic action of all the voluntary muscles was so great, as to simulate a *genuine case* of traumatic tetanus.

Alcohol, ammonia, coffee, cold and hot ablutions, and constant frictions, were resorted to with no effect. The spasmodic action commenced at 2 P. M. and continued until 5½ P. M.; at which time I had anticipated the effect of the morphia would begin to subside; but I was disappointed. Hoffman's anodyne (which I had not been able to obtain at an earlier hour), was now administered, ℥iij in quantity; a portion of which being ejected, a like quantity was again administered. In a short time the spasms began to abate, and in the course of half-an-hour, had nearly entirely subsided. I cannot say that the anodyne was the cause of the cessation of the spasms, or whether it was occasioned by the agent which produced them, being more generally diffused, or being carried off in the secretions. But only a few moments elapsed after it was taken, before the lady expressed herself greatly relieved.

There was no peculiarity in the constitution of Miss V., nor had she ever before experienced any inconvenience from the use of any preparation of opium. It is true, she had in early life been subject to occasional attacks of epilepsy; an attack of which, however, she had not had for a considerable time prior to the use of morphia. She has taken, since the above mentioned circumstance, several of the liquid preparations of opium, from which no unpleasant effect was experienced.

ART. XI.—*Case of Strangulation of a Testicle in the Inguinal Canal.* By SAMUEL MOSELEY, M. D., late Fleet Surgeon of the Pacific Squadron. (Communicated by Thomas Harris, M. D., Chief Bureau Med. & Surg. U. S. N.)

SAMUEL THOMPSON, rated landsman (colored), æt. 18, presented himself on the morning of June 29 1846, complaining of severe pains in the abdomen. At this time there was no abnormal appearance about the part, and, supposing the case to be one of colic, an anodyne was administered, without, however, affording relief. An hour after, being called to the patient, we found him complaining of great pain in the lower part of the abdomen; and, on examination, discovered a tumour in the right inguinal region, extending along the abdominal canal to the scrotum, and about five inches in its longest diameter. The swelling was tense and very sensitive;—in fact, to such a degree that he resisted all our efforts to reduce it by taxis. Our first impression was, that the case was one of inguinal hernia, though the tumour was hard, and did not communicate to the finger the sensation of containing intestine or omentum; and the parts were so much enlarged, that we did not at first notice the absence of the left testicle from the scrotum. He was bled *ad del. animi*, in the erect posture, and nauseated with tartar emetic, with a view to produce relaxation, but without effect. As a dernier resort, we used, with much caution, a tobacco enema, which relaxed the parts and the system generally. It had also the effect of reducing the size of the tumour, and enabled us to return the testicle into the abdomen.

The patient informs us that the left testis has never descended, and that the right, for the last two years, has been alternately present in the abdomen and scrotum. When in the latter position, he always suffers pain in both these parts, which is not relieved until the return of the testis. He is a boy of good general appearance, and in all respects well formed. He states that he has little or no carnal desire, and has never had sexual intercourse.

Dr. M. further says: "As the descent of the testicle is always attended with pain and the risk of strangulation, the question arises whether it would not be better to retain the gland within the abdomen. I am not satisfied that a portion of intestine or omentum did not pass out of the abdominal ring with the testis. If such were not the case, I am entirely at a loss to account for the sudden appearance of so large a tumour, and its equally sudden disappearance after the muscular system became relaxed by the tobacco enema."

ART. XII.—*Notes of Hospital Practice.* By HENRY HARTSHORNE, M. D.

IN the wards of any well filled hospital, a great number of interesting cases must present under more favourable circumstances for the study of disease, than can usually exist in private practice. Under this idea I have prepared an abstract of notes, taken during the last two years in the Pennsylvania Hospital,—not in minute detail, but with a view in each case to some point of particular study. Where inexperience may have been mistaken in this object, and supposed that to be novel which to others is perfectly familiar, allowance must be made.

The irregularity with which different subjects are treated as to order of presentation, is of course the result of the manner in which all notes of actual cases must be taken at the different times when they occur. Some attempt at summary, however, will be made.

CASE I.—*Empyema, with Perforation of the Walls of the Chest.*—Although the result of pectoral inflammation is certainly far from a common one, it so happened that three cases of it occurred in the hospital at the same period, during the service of Dr. W. Pepper.

The first, a German named Duerstein, aged about thirty, was admitted into the surgical wards (11th mo., 1845) for a fractured humerus. During his stay there, he contracted a severe pleuro-pneumonia;—which degenerated into chronic pleurisy with extensive suppuration. Being transferred to the medical wards, the case progressed in spite of treatment, producing emaciation, irritative fever and debility. After several months, the expectoration was observed to increase; and still later, with an extension of the dullness on percussion of the side affected (right side), a tumour began to be developed there, in the neighbourhood of the fifth rib. An alternation was then noticed between the amount of expectoration and the size of this tumour, which would perceptibly expand or lessen from time to time. Upon this fact, and the amphoric respiration at that part, Dr. Pepper founded the diagnosis, that a fistulous opening existed between an abscess in the pleural cavity and the lung. When this opening became obstructed, expectoration would be diminished, and the external swelling increased; and *vice versâ*.

4th mo., 1846. After the lapse of one or two months more, the swelling becoming larger, softer, and more painful, the treatment of it became an important question. But before any interference was decided upon, a small rupture of its surface occurred spontaneously, and the patient produced others with a pin in the night, allowing the exit of pus. Dr. Pepper then enlarged the orifice with a lancet. A gradual discharge of matter took place; his pain was nearly all removed, and all the symptoms ameliorated. Under iodide of potassium as a tonic and absorbent, and the use of morphia to allay cough, he continued better, although without much progress toward recovery, as long as he remained in the house, which was about three months more. The same alternation, however, between the external discharge and that by expectoration, continued with less inconvenience than before. When he left the house, he was able to walk, but was very thin, and still had a very troublesome cough.

Case II.—Bernard Turner, aged forty, had a fistula in his side when admitted. He was very feeble, emaciated, and with violent cough and night sweats. Of his previous history, we could only learn that he had been attacked with pleurisy more than a month before, which attack had become chronic; and that an abscess, pointing in his side, had been opened by a physician, thus producing the fistula. Examined carefully by Dr. Pepper 5th mo. 11th. He found dullness on percussion of the left side, both anteriorly and posteriorly—anteriorly with a well-defined limit between the third and fourth ribs; no respiration on the left side, exaggerated on the right. There was no sound to indicate fistulous communication between the lung and the pleura. The left side of the thorax was somewhat larger than the right. Dr. P. could not detect, with the probe, any opening into the pleura, although he supposed it probable that one existed. The discharge from the external orifice (which is at the middle of the left side anteriorly—over the sixth rib), is at present only a few drachms daily.

The diagnosis was, that pus existed in the left pleural cavity, from chronic pleurisy, without supposing that the lung and pleura communicated. The first treatment was with iodide of potassium, infusion of quassia, nourishing diet—with porter—and a cough mixture of morphia and syrup of tolu.

6*th mo.* 2*d.* His side has healed up,—but in his symptoms and general condition, there is little change. A few days after this, the iodide of potassium was stopped, and quin. sulph. and pil. ferri carb. substituted—continuing the other treatment.

17*th.* Has certainly improved steadily, though slowly.

7*th mo.* 11*th.* Does not retrograde. He went out of the house in the 9th month, in tolerable condition, but still with some cough.

He was readmitted 6th mo. 16th, 1847, for a pain in his side, but principally on account of the interest of his case. He had grown stout, and looked vastly better than he did a year before. The fistula had occasionally reopened, and discharged slightly for a short time during his absence, —but closed, finally, about eight weeks before his second entrance. Since its closure he had felt a sense of weight and pain in that side of the chest. Percussion is dull, however, only over a small space, and respiration only absent within the same narrow limits.

The pain was relieved, at first, by cupping and vesication, but returned and increased.

6*th mo.* 23*d.* A pouting as big as a marble, and fluctuating, was found over the site of the former fistula; this Dr. Pepper opened with a lancet, and a tablespoonful or two of pus escaped. The next day his pain had disappeared.

30*th.* He remains pretty well, and free from pain.

Case III.—Charles Logue had been ill for six months before admission, with cough from the first, of the exact pathology of which we obtained no medical information. He stated that a tumour of his left side had been opened by a physician about six weeks before we saw him. It had then discharged several ounces—the rest being "corked up" by the doctor for fear of weakening him, and allowed to pass off afterwards. His pain, and the harshness of his cough, were eased by the discharge.

The opening was near the sixth rib, below the cardiac region. It gave exit to a large amount of pus daily. He also coughed a good deal, spitting muco-purulent matter;—had considerable pain in the chest, and a slight diarrhœa. Treatment—quinine and iron, full diet, morphia cough mix-

ture, and afterwards p. opii et ipecac. in pill to check his diarrhœa. He appeared, at first, to gain a little strength,—but no essential change took place for some weeks, when the diarrhœa became worse, and aggravated his debility. He was removed to the almshouse; and, although living when we last heard, which was four or five months later, has, most probably, died a victim of phthisis.

Remarks.—In the first of the above cases, resulting from pleuro-pneumonia, there existed not only an external fistula, but also a communication between the lung and the cavity of the pleura. In the second, from pleurisy, we had no proof of any opening into the lung. In the last, of tubercular origin, extensive disease of both lungs and pleura, and the double fistula. In the last two, the opening was in the left side,—in the first, in the right.

The interesting point, with regard to them all is, the effect of *opening* the pleural abscess, when it projected between the ribs, forming an external tumour. In the consultations held over one of them, it appeared to be thought very doubtful whether an incision was proper, or even safe; an idea being entertained that perhaps the entrance of air under such circumstances might be deleterious.

But *à priori* considerations are really against this opinion; the adhesive inflammation which limits the traveling of pus within the chest, with such force as to compel a distension of the integuments, and the formation of a tumour, must certainly, even if the discharge did not prevent it, guard against any injury from the entrance of air. The real difficulty was to be certain in diagnosing the contents of the tumour. But all the appearances and signs, physical and rational, combined to favour the existence of suppuration. And the event of each case proved satisfactorily that the indication was, as pointed out by the efforts of nature, to *open it.* Exactly the same rules should apply to this, as to any other kind of abscess; when it becomes large, soft, and begins to fluctuate, and, by colour, makes known the approach of matter toward the surface, this should be facilitated, and the patient relieved by a careful incision. It is well known that some practitioners extend this treatment even to the management of phthisis, by perforating the walls of the chest, to evacuate a tubercular cavity in the lung.

Case IV.—*Recovery from Phthisis.*—A man named Evans, aged 27, was admitted in the fall of 1845, into the surgical wards, for a bad ulcer of the leg. He had then all the marks of confirmed consumption; emaciation, hectic, night-sweats, debility, severe and constant cough, with copious expectoration of pus, cavernous respiration, and dullness on percussion over the right lung.

He was ordered infus. prun. Virginian., good diet, and an opiate cough mixture, and the ulcer gradually reduced to a moderate size. It was then occasionally induced to discharge by a poultice for a few days—as he had noticed that when the sore had been nearly healed, his cough and general symptoms were worse.

Being transferred to the medical ward, the same treatment was continued for several months.

4th month 29th, 1846. He is now in good flesh and colour; has *no cough*, scarcely any soreness of chest even on breathing hard, no hectic nor night-sweats, and only a slight expectoration of puruloid matter. This, and very decided cavernous respiration and dullness on percussion over the right lung, are the only signs of disease left. The sore on his leg is now quite small, and discharges little.

5th month 4th. He leaves the house to-day in good case, the ulcer healed. We can consider this nothing else than a recovery from consumption, under circumstances of the greatest disadvantage.

Locality of Tubercle.—The rule which is laid down by authors, that phthisis attacks in preference the *left* lung, has met with many exceptions in our recent hospital cases. For several winter months, more than half of a considerable number of phthisical patients gave evidence of the disease in the right side. Nor was the *upper lobe always* prominently affected; although of this fact we had less opportunity of verification by autopsy, and the apparent exceptions to the rule were few.

Case V.—*Tuberculosis developed by Pneumonia.*—The history of a case was simply this. Thomas Galway, aged 30, was admitted with a complication of pneumonia with nephritis; as shown by all the symptoms and physical signs, under Dr. Gerhard's examination.

In the course of a month, the disease of the kidney gave way; but the pneumonia passed through the second and third stages—emaciation, hectic, and night-sweats supervened, and, finally, cavernous respiration, crackling, and profuse expectoration convinced us that phthisis was present.

He died about two months after the commencement of the attack. On post-mortem inspection, all the evidences of pneumonia were found in both lungs, particularly the left, in the middle and lower lobes. And in the most inflamed parts tubercles were seen, in the hard condition of recent formation, excepting one large cavity from softening, in the middle lobe. Dr. Wood concluded that the *pneumonia had developed* phthisis; because the tubercles coincided in situation with the inflammation, which was in the ordinary site of pneumonia, but an uncommon one for tubercle, unless when pervading the whole lung, as it did not here; and because the right lung, which had less inflammation, had also less tubercle. In both lungs, the upper part, where phthisis usually begins, was entirely healthy. The pneumonia was also evidently old, the tubercle mostly new.

Remarks.—The question whether inflammation ever develops tuberculosis, appears then to have an affirmative answer in this case. Authority would determine, however, that it is much less common than the reverse order of things.

Are we not, nevertheless, called by such a case to consider the occasional need of temporary *active* treatment for thoracic inflammation with acute symptoms, even in a person thought to be of a phthisical diathesis? There is perhaps too much opposition to moderate blood-letting, &c., in such instances. Although healthy nutrition is the great indication, yet it should be an even and tranquil nutrition, without any excess of stimula-

tion. And the stimulus of an actual inflammation must of course be the worst of all.

Internal use of Chloroform.—When the inhalation of this substance as an anæsthetic began to attract universal attention, we made at the hospital, at Dr. Wood's suggestion, some investigation into its effects when taken internally. Although very sweet, it is so pungent as to require a large proportion of gum water to obtund its effect on the tongue, throat, and even stomach.

Seventy-five drops gave me a sensation of general diminution of consciousness and sensorial capacity. Sight, hearing, and touch were all made less impressive, but no feeling of exhilaration or of derangement occurred. Drowsiness was positive. The pulse was not at all accelerated; in fact, it was two beats less in the minute. The same effects followed in two other medical gentlemen from two or three times the quantity. One swallowed a drachm, or over 200 drops. He became very heavy, and after a short interval went into a sound sleep. The effect passed off in all of us after an hour or two. No one felt exhilarated or deranged as by alcohol, and in none was the pulse increased. The conclusion was positive in all our minds that it is a *direct sedative* to the cerebro-nervous system—a sedative narcotic.

A woman who suffered with a most obstinate and painful neuralgic affection of the side and head, took 75 drops at night. She slept better than she had for weeks, even after inhaling ether or chloroform, as she had repeatedly; and was also unusually comfortable the next day. She then continued to take it, in a somewhat larger dose, for two or three weeks, every night; and improved under this more than under any other treatment.

From the pungency of chloroform I was induced to expect carminative powers. Upon trial in a number of cases of flatulent colic, I found it in the dose of 75 drops, sometimes repeated, to give prompt relief. It was then used as a substitute for Dover's powder as a soporific at night in rheumatism; and there answered admirably. There was but one patient, a woman with cancer of the uterus, to whom it was given as an anodyne, who alleged that it disagreed with her, causing headache and sickness of stomach without sleep or relief.

Believing it to be less constipating and more purely sedative than morphia, I tried the addition of it to cough mixtures in place of the latter. But here the objection presents, that so large a quantity of mucilage is required, as to oppress the stomach; or, if given in alcoholic solution, the stimulus of this vehicle might be undesirable. Still, as it is very pleasant to the taste, it might be added in small quantity to such mixtures, lessening the usual amount of opium in them.

It might be worth while to try it by enema in strangulated hernia, as a

powerful relaxant to the system generally, and at the same time an excitant of peristaltic action. It is our impression that it is somewhat laxative even when taken by the mouth; but our experiments did not render this certain. There is no doubt, however, that as a purely sedative narcotic and carminative, having the advantage of a sweet, pleasant taste, it might often be made a serviceable medicine.

ART. XIII.—*Further Observations on Trismus Nascentium, with cases illustrating its Etiology and Treatment.* By J. MARION SIMS, M. D., of Montgomery, Ala.

IT must not be disguised that there are cases of this disease, in which the displaced occiput cannot be rectified by any means whatever. The child is then born but to die, and will generally manifest symptoms of the disease at an early period; indeed, most frequently from the very hour of birth.

Before proceeding farther, it may be profitable here to take a brief retrospect.

1st. I have related cases, in which trismus nascentium resulted from an *inward* displacement of the occipital bone; that displacement being easily detected.

2d. I have produced facts showing that the same state of things may exist, when the displacement is so *slight* as not to be recognized, unless by a peculiar method of examination.

3d. I have adduced a series of cases, exhibiting the same characteristics, in a minor degree, depending upon the same mechanical agency; and relievable in the same speedy manner, which I have, for obvious reasons, denominated *trismoid.*

4th. I have produced cases to show that the displaced occiput will occasionally require surgical interference, before it can be properly adjusted.

Thus it will be seen, that the cases, so far adduced, are all of one general character; all go to show that the disease is the result of pressure exerted at the base of the brain; and in all this, pressure was produced by an *inward* displacement of the occiput, differing, however, in degree from the slightest to the greatest.

This brings me to the consideration of a class of cases, in which the disease was not the result of an *inward* occipital displacement, (and dorsal decubitus,) as in the foregoing, but was plainly caused by an opposite state of things—by a prolonged lateral decubitus, with a position of the occiput *exterior* to the parietal bones. This relative position of these bones is the only proper one in extra-uterine life. While my facts, so far,

would seem to establish the law that there is no safety, if the occiput be not *exterior* to the edges of the parietals, the following cases will show that there is danger, if it be carried too far.

Case XI.—A negro child, male, born on Tuesday, the 4th of May, 1846, had been kept on its sides constantly, for the express purpose of preventing trismus. It did very well till Tuesday night, the 18th, (then two weeks old,) when *it refused to suck*, fretting and crying all night. Its jaws were closed, so as to prevent the introduction of the nipple, but could, as in all cases of this disease, be forced asunder by the finger. After much exertion, however, the nipple could be got into the mouth, and then it would suck tolerably well. On Wednesday, it was pretty quiet, but could not suck any better than during the night before. Thursday and Friday, its condition was much the same. It had no other bad symptom, besides this great *difficulty of sucking*. No tonic rigidity, and no clonic spasms, save the facial spasm, induced only when the mother attempted to suckle it.

I saw it for the first time on Saturday the 22d. At night it lay in the bed with the mother, *on its side, with its head resting on her arm.* During the day it slept in a cradle, *on its side*, with a pillow placed crosswise under the head. The occiput was *not* pushed under the parietal bones; on the contrary, it overlapped them all along the lambdoidal suture, thus occupying its proper relative position.

At this time I was carried away with the erroneous idea of "spinal congestion and spinal hemorrhage," and thought it impossible for these to occur, when the child had been laid on the side, so as to prevent a stagnation of the spinal circulation. I could not, therefore, understand how the disease was developed in this case. The fact that the child's head had been supported on a large pillow during the day, and on the mother's arm at night led me to suspect, that the sudden lateral flexure of the neck might possibly have something to do in the chain of causation; so I directed the mother to retain it on the side, but to place the pillow *lengthwise* the cradle; thus making an inclined plane of it, so as to prevent the crooking of the neck. In the evening, I found the child as before, not able to suck any better; but, as the mother had put the same old pillow *crosswise* under its head again, to this I still blindly attributed the persistence of the symptoms.

Once more I placed the child *properly* on its side, giving most peremptory orders to keep it so. Next morning (Sunday), it was no better, although the directions had been followed. The relative position of the bones was the same, the occiput overlapping the parietals very considerably. By compressing the parietal protuberances firmly between my hands, I found that I could very easily make their posterior edges approximate each other, thus lessening slightly the bi-parietal diameter, while the occiput was consequently thrown further outwards. I now, for the first time, suspected that the child had been kept too long on its sides; and that the hard arm of the mother had done the mischief, instead of the pillow. So, I directed a dorsal decubitus, the weight of the head to fall on the occiput. This, continued for two days, did not appear to improve in the least the *difficulty* of exercising the *sucking* process.

The only effect noticed from the dorsal position, was a separation of the parietals along the sagittal suture, putting the commissure on the stretch. The lateral decubitus was then tried for another day, but with no amelioration of symptoms, or modification of the relative position of the bones.

On Tuesday night (8th day of the disease), the child became worse, fretting and crying all night. It continued so for the next week, there being no important change till *Tuesday night again*, when it seemed to be much better, resting well and sucking more easily and freely; and in a week more all the trouble wore off, as it were, imperceptibly. For the last two weeks it had a diarrhœa, the dejections being of a greenish mucus, which continued, in spite of the usual remedies, for a good while after all difficulty of sucking was overcome.

The progress of this case was not controlled or modified by any active interference. It appeared to run its course and exhaust itself independently of anything that was done: observing, at the same time, a most remarkable hebdomadal periodicity in its various phases—for instance, it was born on Tuesday night, the 4th of May: was taken with the first symptoms of the disease on Tuesday night, the 18th (when two weeks old): was much worse on Tuesday night the 25th, and continued so till Tuesday night the 1st of June, when it got much better, and by the following Tuesday, 8th, nearly every trace of the disease had disappeared.

If this had been the only case of the sort that occurred to me, I should never have been able to reconcile it with those in which the occiput was *within* the parietals; but, fortunately, I have two others of a similar character, which throw more light upon the subject.

Case XII.—Ann, primipara, belonging to Mrs. Somerville, was delivered of a male child, after a labour somewhat tedious, on Wednesday, the 6th of January, 1847. On Saturday the 15th (being nine days old), it became very fretful, and *would not suck*, *whined* and cried all night. Same condition on Sunday and Monday, when it was sent to me. *It could not suck at all.* Its jaws were firmly closed. It had occasional clonic spasms; some tonic (flexed) rigidity of the extremities, with the thumbs thrown across the palms: could swallow very well when milk was put into the mouth, but could not exert the slightest suction power when the nipple was placed there. It did not seem to have an easy moment: groaning, writhing, whining, and crying in a half stifled tone all the time.

Its head presented a remarkable appearance, being flattened in front, mashed backwards, and elongated in the direction of the vetex to an enormous extent.

The occiput was *not* overlapped by the parietals, but was on the *outside* of them, in its proper place. As in the last case, the edges of the parietal bones appeared to be pushed too far under those of the occiput, particularly up towards the posterior fontanelle. By compressing the parietals laterally, just at the edges of the lambdoidal suture, and also by a direct but slight pressure on the occiput, just a little behind the foramen magnum, every symptom of the disease was greatly aggravated. Relaxing the pressure would relieve the symptoms immediately, or at least allow them to remain as at first. This experiment was repeated "over and over again," with the same unvarying results, modified in almost exact proportion to the degree of pressure.

The nurse who brought the child to me, said *she thought* it had been lain mostly *on its back*. This representation did not agree very well with the *exterior* position of the occiput; and I was at a loss how to reconcile this fact with the relative position of these bones; because, as I have had occasion before to remark, when an infant has been kept upon the back during the first week or two, the occiput is *obliged* to remain displaced

inwardly, its edges being overlapped by those of the parietal bones, whilst a continued lateral decubitus will in nineteen cases out of twenty, reverse their relative position, which, being once accomplished, is never changed, at least in heads where the bones are well ossified.

From the perfect resemblance of this case to the one last described, I concluded that it, too, would become chronic: and accordingly gave that prognosis.

Having tried the experiment of laying the child in every position possible, I found that the semi-lateral decubitus, as well as the dorsal, had a decided tendency to aggravate all the prominent symptoms. And, that a purely lateral decubitus exerted a like influence in a minor degree, while a fronto-parietal posture seemed to ameliorate them. [Let me explain what I wish to be understood by these terms. The term *dorsal* explains itself. By *semi-lateral*, I mean, when the child lies neither on the back nor on the side, but in a position between these two, which will throw the weight of the head on that part of the parietal between its protuberance and the lambdoidal suture. *Lateral* is used when the weight of the head is sustained on the parietal protuberance: and *fronto-parietal*, when it falls near the outer edge of the orbit.] A careful *fronto-parietal* position soon ameliorated all the distressing symptoms. The child soon stopped crying and "writhing about:" had no chronic spasms after the first day, and no borborygmus. It slept well, but *could not suck*, nor open the mouth any better. It was changed frequently from side to side, but it always rested better on the left; because the parietal bone was not shoved under the occiput to so great an extent here, as it was on the right side, and hence a less degree of compression was exerted upon the great nervous centre.

I retained the child at my own house, so that I might watch it the more carefully, having determined to puncture the scalp, and elevate the depressed edges of the parietals, if it should become necessary; but, as its condition had improved so much in twenty-four hours, I sent it home with proper directions for its management, and with instructions to bring it back to me if it should get worse. Being confined to my bed at the time with a long spell of sickness, and hearing occasionally that it was no worse, I did not see the child after this till Thursday the 28th of January, the thirteenth day of its disease, when it was again brought to me. I was surprised to find that it had been getting progressively worse, from day to day, till now it presented a most aggravated form of the disease. Its hands were closely clinched; forearms flexed upon the breast; thighs, legs, and feet all in a state of rigid demiflexion; there was no such thing as straightening them by any warrantable degree of force. It had frequent and severe spells of clonic spasm, with hard-featured grimaces, and a whining, barking, half-suppressed sort of cry. Jaws still locked—could swallow, but was wholly *unable to suck;* and had a diarrhœa superadded to its other symptoms. During the clonic spasms, its mouth is twisted to the right side, and its head bathed in a most profuse perspiration. The face looks quite placid, when not contorted by these horrible spasms, which recur spontaneously every few minutes, or are induced at any time, by a sharp sound, by motion, and by the gentlest titillation of the lips and nares; and also, by the evacuation of wind or feces, or else this latter is a concomitant of the spasm, which is, perhaps, more probable.

I looked upon the case now as almost hopeless, but, as a matter of experiment, I punctured the scalp over the lambdoidal suture on the right side, with the point of a short strong knife, and, making a lever of it, pryed

out slightly the corresponding edge of the parietal bone, which produced a very severe attack of clonic spasms. I did not wait to see the effect of the operation, but sent the child home immediately, not hearing from it till I was able to visit it two days afterwards, when I obtained from the mistress a more correct history of the case.

She says, that immediately after the puncture of the scalp (two days ago), the child's crying was strong and natural, opening the mouth widely, so that the tongue could be seen distinctly—and this for the first time during the progress of the disease—and that it now rests better on the right side than the left. Before, it rested better on the left side, because the left parietal being less depressed, produced, of course, less compression of the brain; but now it lies best on the right side, for the reason that the slight puncture has, to some extent, elevated the depressed edge of the right parietal. She says, moreover, that, after the puncture, the child could extend the arms voluntarily, (a thing it had not done before,) but that the wrists remained flexed. To straighten the wrists, would be at the expense of flexing the forearms; otherwise it could not be done.

Mrs. Somerville also informed me, that the mother, up to the time I first saw the child, always kept it square *on its side*—nor does she remember ever to have seen it lying in any other position than this, *with its head resting on the mother's arm.* This statement differs from the one given by the nurse, and explains readily enough the relative position of the bones; for the constant pressure of the mother's hard arm on the parietal protuberance accounts for the inward *abnormal* displacement of the edges of this bone. I say *abnormal*, because the displacement was greater than it would have been under ordinary circumstances, and greater than is necessary for holding the occiput in its proper place *exteriorly.*

It was now easy to understand how the child had been getting worse for the last twelve days, for Mrs. S. says, that the nurse, not a very intelligent negress, had told her, as I directed, to lay it on the side, and keep it so; and that she had followed the directions to the letter. This obedience to instructions, not sufficiently explicit, had the effect of driving the edges of the parietal bones further under the occiput than at first, and hence the aggravated state of the disease.

Mrs. S. had observed that the act of laying the child down, *always* induced violent spasms, which lasted for a long time, gradually yielding to a state of quiet and sleep, or rather stupor. She noticed often, that these bad spells could be instantly relieved by changing it to the erect posture, and that it could open its mouth wider, swallow better, and cry louder when erect, than when it was lying down—and that it was easier the more it was laid over on its face. Did not these facts, particularly when conjoined with the day's observation at my own house during the early history of the case, plainly point out the course to be pursued?—and the course which the good common sense of Mrs. S. would, in all probability, have taken with it, had she not been restricted by direct instructions from me (carried loosely and carelessly by the nurse), to keep it all the time on its side? Of course I ordered immediately what was so plainly indicated, viz.—to hold the child erect as much as possible, and when it became necessary to lay it down, to place it in the *fronto-parietal position.* This was at nine o'clock in the morning. I visited it seven hours afterwards, viz. at 4 P. M., and ascertained that *it had not had a single clonic spasm since the erect posture and fronto-parietal position had been observed*—whereas before, they were frequent; that it had slept quietly all the time—whereas

before, it hardly slept at all, and was never quiet, unless in comparatively a comatose condition.

Sunday 31*st*, 11 *A. M.* It cried but twice last night; formerly it fretted and cried all night long. It now cries louder and freer, having less facial spasm. After dressing it this morning, Mrs. S. held it erect till it literally nodded itself asleep, when it was laid down, as before directed, without the slightest disturbance.

4 *P. M.* It has been asleep ever since last visit. It now has the power of turning the head spontaneously, notices any noise, and for the first time, sharp sounds do not excite clonic spasms.

Tuesday, February 3*d.* It sucked to-day for the first time since the disease set in (18th day). It was somewhat difficult to get the nipple into the mouth, but when it got a good hold, it sucked very well.

A further daily report of the case would hardly be profitable. From the very moment that the erect posture and *fronto-parietal* position were instituted, the child began to improve. Does it not exhibit in a wonderful manner, that a very trifling difference in position may exert the most powerful influence for good or evil? Thus, we see the disease developed while the child's head lay on the hard arm of the mother. We next see the urgent symptoms ameliorated by a careful position. Again, they are aggravated to a tenfold degree by a prolonged *lateral* decubitus, whereby the edges of the depressed bone are pushed farther under the occiput; and then again they are modified, for a time, by puncturing the scalp and elevating the bone. We now find them better when the child is held erect, so that there is no pressure at all on the head; worse again when it was laid down in such a way as to drive the depressed bone further under. And finally, we see it immediately relieved of all the urgent symptoms, and gradually relieved of the whole disease, simply by attending to such a position, and such alone, as would prevent a pressure, which, from the very nature of things, is obliged to be expended upon the medulla oblongata.

Even after the predominant or urgent symptoms had been relieved, there were still evidences of some persistent derangement of the symptoms. For instance, its face looked hard, furrowed, and old, its hands remained shut, with the thumbs thrown across the palms, and the thighs, legs, feet and toes remained in a state of rigid demiflexion. These contractions all gradually gave way, but were something like two months in doing so. During this time, I would occasionally puncture the scalp over the lambdoidal suture, with the point of a crooked awl, and prize out the edges of the parietal bones, and always, with the effect of greatly modifying the rigid flexures of the extremities. The operation, being simple and safe, was frequently performed, without the loss of a drop of blood, and invariably with the direct effect above described, thus showing plainly that it was pressure on some part of the great nervous centre, which, irrespective of every other condition, was producing all the mischief.

Case XIII.—A negro woman, Frances, gave birth to her third child, a mulatto, on Monday, the 8th February, 1847. Nothing unusual in the labour. It seemed to be doing well till Friday the 12th, when it fretted all day, but did not refuse to suck till about six o'clock P. M. It rested pretty well, however, until midnight, when it waked up crying and whining, and *could not suck at all.* It continued in this way all day Saturday. I saw it late in the afternoon, and immediately recognized the disease. It had been kept all the time on its sides for the avowed purpose of preventing

trismus; but *its head rested on the mother's arm*, night and day, whether it was applied to the breast or not.

Occiput occupying its proper relative position *exterior* to the parietals; but these have been, by the hard arm of the mother, pushed farther under the edges of the occiput than is compatible with safety. I cautioned the mother against the danger of supporting the child's head on her arm, and as there was nothing urgent or alarming about the case, the *inability to suck* being the most prominent symptom, I told her that the disease would, in all probability, become chronic; that she must not feel uneasy as to the result; that if it should get worse, I would operate on the bones of the head, and thereby relieve the disease; that there was no immediate danger, and I did not therefore deem an operation now necessary, or even justifiable. So I left without making any other prescription than a frequent change of position, merely guarding the mother against the danger of supporting the head on her arm.

Being exactly like the two cases last related, I thought it would run the same long course, and eventually get well, for my mind was full of the idea of *spinal hemorrhage*, and I supposed that, while a child was kept on the side, this could not occur, and that death could hardly take place without it, and therefore that I could safely afford to watch the case. I felt no uneasiness at all as to the result, but I was very greatly mistaken. My confident manner of speaking deceived the mistress and the mother of the child, and although it continued to get worse very rapidly after my visit, still I was not apprised of its situation. Being called some distance into the country early the next morning, I did not return till late in the afternoon, and was somewhat surprised when my friend Dr. Boling informed me, that he had been attending my little patient all day, that he thought it would die very soon, and that (as he jocosely remarked), "I had better hasten to it and see that it was placed in a *proper position*."

When I arrived, I was astonished to see it in what I usually considered the fatal stage of the disease. Tonic rigidity extreme—clonic spasms violent and very frequent, following each other in rapid succession—head deluged in a most profuse perspiration—perfect inability to swallow—pulse imperceptible—respiration very frequent (138) and panting. Really, the child looked as though it would die directly. When I left my office, I picked up a crooked awl, with which I intended to puncture the scalp, and push out the edges of the parietal bones; but, as it then appeared to be moribund, I feared to make the attempt, lest its death should be attributed to the punctures with the awl. For experiment, however, I turned the child over on its belly across the mother's lap, with its chin resting on her knee, so as not to obstruct its respiration, while I stooped down to watch the expression of countenance. Very soon, the panting and spasms ceased—the hands became relaxed—the mouth fell open, and the child got quiet. For a moment, I thought that this new position had done wonders, in the way of relieving its sufferings, and perhaps it may, for I soon discovered that it was (to all appearance) dead. I took it in my arms, and turned it over on the back, secretly congratulating myself that I had not punctured its head with the awl; when it gave a gasp, and a slight spasmodic quiver thrilled gently, but suddenly, through its whole frame. The mistress, the mother, and all present, thought the child dead. I gave it a shake, and threw some water in its face, to excite, if possible, the respiratory act, which produced no more effect than if it had been thrown on a stone. While wiping its face, it had another quivering to agitate its whole body. I now

quickly turned it over, punctured the scalp along the lambdoidal suture, and prized out the edge of the parietal bone. This produced a general spasm, —then another—and another—and a gasping respiration, the eyes flying open—all resembling very much the effects of electricity suddenly applied to a body just dead. The other side of the head was punctured, and, in like manner, the edge of the other parietal bone was pushed out. The breathing improved; indeed, became regular. The tonic rigidity of the extremities returned. The jumping clonic spasms were re-established, and the child was recuscitated. All this appeared to be the result of motion, communicated to the nervous centre, by prizing out the edges of the parietal bones, which first excited general muscular contractions, and a gasping respiration, whereby the vital spark, not quite extinguished, was again lighted up. These punctures and prizings had the effect of elevating to some extent, the depressed edges of the parietal bones, but the occiput was not forced under them.

After this, the child was placed carefully in the *fronto-parietal* position (before described), with the view of preventing the further displacement of the edges of the parietals.

10 *P. M.*—It has now been five hours since the occurrence last described. The occiput is occupying about the same relative position, *exterior* to the parietals, as when I left. The edge of the right parietal seems not to be too far under the occiput; but that of the left is, especially up towards the posterior fontanelle;—so I punctured again with the awl, and prized out this side a little more, but not enough to change the relation of the two bones. There is considerable febrile reaction,—breathing less than 80 per minute—panting and grunting with every expiration—less tonic rigidity—hands and forearms can be extended by a little force, which could not be done before—has slight clonic spasms every two or three minutes, during which it groans and *strains*, being apparently threatened with asphyxia.

Still impressed with the idea that it was the *spinal hemorrhage* that caused death in this disease, and knowing there was no chance for this to take place while the child was not laid so as to favour the gravitation of the blood toward the spine, I blindly indulged the hope that it might yet recover. But it died at day-light on Monday morning. It did not die as children usually do of this disease—with violent agonizing, asphyxiating throes, but its strength gradually failed, and its life flickered away gently, almost imperceptibly. It lived twelve hours after elevating the depressed edges of the parietal bones, having been sick, in all, about three days.

Post Obit. eight hours after death.

[Let it be remembered that this child had never lain on the back from the hour of birth till it died—and that it died lying in the *fronto-parietal* position.]

Umbilicus—healed up beautifully.

Spine.—In cutting down on each side of the dorsal vertebræ to the transverse processes, for the purpose of taking out the spinal column, blood flowed very freely, but three times as much so from the right side as the left. Same phenomenon observed in cutting through the muscles in the cervical region. This is easily explained by the fact that the child was confined to the right side during the last hour of life, which, of course, favoured the gravitation of the blood more to the right side of the body, and correspondingly, to the right side of the spinal column.

Medulla Spinalis—no extravasation within the Spine.—There was

some little on the posterior surface of the medulla spinalis, exterior to the dura mater, and just opposite the upper dorsal vertebræ, but it was evidently a post-mortem appearance, as it occurred only in the concavity of the column, where the blood was obliged to settle down, if at all. If it had been *ante-mortem*, it would have been found on the *side* of the medulla, as the child had never lain on its back during its life.

Brain—perfectly bloodless.

Lungs—congested, exhibiting a most marked appearance of deficient oxygenation.

Other viscera—normal.

This completes the number of cases that I shall bring forward on the present occasion. I have many others, but these will suffice for all practical purposes. They seem to me to justify the conclusion that trismus nascentium is the result of mechanical causes; the *predisposing*, being protracted or tedious labour, but particularly, a too well ossified state of the fœtal cranial bones. The *exciting* cause is undue pressure on these bones, more especially on the occiput; while the *immediate* cause is undue compression of the medulla oblongata and the nerves originating from it.

These cases are, naturally enough, divided into two great classes. The first and largest is, where the occiput was displaced *inwardly*, with its edges overlapped by those of the parietal bones. In the second (embracing but three cases), the occiput occupied its proper relative position on the *outside* of the edges of the parietals. In the first, the children had been retained mostly on the back, or in the *semi-lateral* position. In the second, they had been kept constantly on one side or the other; and all three of them had the head supported principally on the mother's arm, thereby causing an approximation of the parietals under the edges of the occiput.

Now it may very reasonably be asked, "How does pressure, in these two opposite modes, produce precisely the same results?"

This problem puzzled me for a while, but it is now easily explained. Let any one who feels curious on this point, procure a recent fœtal head, cut away the frontal bone, and scoop out the cerebrum, leaving the falx, tentorium, cerebellum, and medulla oblongata and its nerves, *in situ*. If the occiput is not very movable, let him cut it loose from the parietal bones along the lambdoidal commissure, leaving a small point of attachment right at the apex, or posterior fontanelle. In this condition, the bone can be made to lap over, or slide under the edges of the parietals, at will. Now let the occiput be displaced *inwardly*; make firm pressure upon it, at the same time that you look through the opening made by the removal of the os frontis; and it will be seen that the displaced occiput pushes forward the whole of the cerebellum (with the posterior lobes of the cerebrum); that the pons and medulla oblongata are pressed forcibly against the cuneiform process of the occipital bone; and that the fifth, seventh, eighth and ninth pairs of nerves are compressed, pinched, stretched, or thrown into folds near their several points of emergence from the cranium. And here it would be easy enough to analyze the different symptoms of the disease,

showing their dependence upon this pathological condition. For instance, the ninth pair of nerves (distributed to the muscles of the tongue), coming out of the fissure between the corpus pyramidale and olivare, being the first and easiest compressed, accounts for the difficulty of sucking being the earliest symptom of the disease. The accelerated circulation, but particularly the hurried breathing, and the laryngismus, may be traced along the eighth pair of nerves and its branches; while the hard-featured, puckered-up expression of countenance, with the spasms of the eyelids, or their open paralyzed condition, may be seen along the portio dura of the seventh pair.

The locking or falling of the jaw, and the great difficulty of prehending the nipple, are referable to pressure exerted on the motor branch of the fifth pair. The tonic rigidity of the extremities results from the persistent pressure on the pons, propagated through it to the motor track of the medulla, while clonic spasms come on as a consequence of these, or are excited by sound, by motion, or anything affecting the excito-motor system.

The regurgitating sort of puking, the borborygmy, and the diarrhœa, are to be accounted for by the intimate connection existing between the sympathetic and the nerves implicated at the grand point of pressure. But why take up time with these physiological explanations? It is enough to point out the simple truth of mechanical pressure, and to demonstrate its ultimate expenditure.

Let us now see what is the result of pressure on the parietal bones, when the occiput is *exterior* to them. Give them, then, this relative position. Now look, as before, through the opening made by the removal of the os frontis; then compress the parietal protuberances laterally, so as to cause their lambdoidal edges to approximate each other, thus diminishing the bi-parietal diameter—and what is the consequence? Why, the posterior lobes of the cerebrum are compressed, and pushed down against the tentorium; the occiput is thrown out from its vertical direction, which causes a stretching of the tentorium; the cerebellum is consequently squeezed up between the tentorium above and the occiput below, and is thus made to slide forwards, pushing the medulla oblongata into its bed in the cuneiform process of the os occipitis, and compressing it there just as certainly and as effectually (though not quite so strongly), as when the pressure was made directly behind on the occiput. This is no guess-work—it is matter of absolute certainty, of mathematical demonstration. Thus we see that the apparent contradiction, in the two classes of cases, is easily reconciled; and that the disease in both results from a pressure, which, coming from opposite directions, is shown to be expended at precisely the same point. In the second class of cases, the pressure being less direct, and of course less powerful, accounts sufficiently for the disease being milder, and becoming chronic.

If it should be asked, "Do I relinquish the idea, formerly advocated,

that a *spinal hemorrhage* is essential to the disease?" I answer, yes. I entertain no mere opinion which I will not give up at once if facts do not sustain it. Was there ever a more unequivocal case of trismus than the one last related? And yet the brain and spinal marrow were *both perfectly bloodless*. This was all explained by the position in which the child had been placed and retained, from the hour of birth up to the very moment of death. Does it not prove "that, under certain circumstances, a child may die of trismus in its most aggravated form, and yet have no extravasation within the spine?"

But that the greater number have this *spinal extravasation*, is proved fully by reference to different authors on the subject. For instance: Matuszinski observed twenty-five fatal cases. Post-mortem examinations were made in twenty. In sixteen, there was a *spinal hemorrhage*, and in the other four, there was none. How is this discrepancy to be accounted for? Why, every individual case must be studied by itself, and be decided on its own merits. I have known some cases to be developed at midnight, and to die in three or four hours; and I have heard of others that did not live six hours. Now, in these, I should not expect to find the organic change spoken of, because they die of asphyxia before there is time for any organic lesion to take place. But the great majority of cases live twenty-four, thirty-six, or forty-eight hours, or longer. In these, there is every probability that we will find the *spinal extravasation*, because the dorsal or semi-lateral decubitus (ordinarily observed), will cause a gravitation of the blood, and a stagnation of it, in and around the spinal canal, to such an extent, as to result in this extravasation, which could be prevented only by a very decided lateral decubitus, but which no one would, *à priori*, think of adopting.

What, then, is the cause of death in this disease? Why, they all die of laryngismus (and its immediate consequences), caused, no doubt, by pressure on the eighth pair of nerves. Relieve the clonic spasms, and, with them, the spasm of the glottis, and the other symptoms are of no importance. Look at Case XII., where the tonic rigidity continued for two months; where the expression of countenance was trismal all the time; where the difficulties of sucking lasted for several days; and yet, the very moment that the clonic spasms were arrested by a proper position, the child was evidently out of all danger. This fact suggests a very important lesson in such cases as are not susceptible of being remedied by position, or by an operation, and that is, to resort to tracheotomy* to prolong life till nature can accommodate the brain and nerves to the pressure, or till the nutritive function shall have effected the necessary changes in the shape and position of the parts exciting the morbid influence.

* [Our esteemed correspondent should not overlook the fact that tracheotomy has been resorted to in tetanus, and has entirely failed. See preceding number of this Journal, p. 222.—Editor.]

A case occurred to me, last December, which would have justified this procedure. After a tedious labour, the child (a fine large boy), was still-born. With the establishment of respiration the first symptoms of the disease were manifested. The inability to suck, and the clonic spasms, existed from that time. The occiput was considerably depressed, and (as in Dr. M——'s child, Case X.), appeared to be too much curved in, up towards the apex, thus presenting the segment of a smaller circle than that described by the edges of the parietal bones, and could not, therefore, be made to overlap them. I tried a well regulated position for half a day, but as the child got worse every hour, I determined to resort to the operation of puncturing the scalp, and elevating, if possible, the edges of the depressed bone. This was easily done by means of a shoemaker's awl, the curve near the point resting against the edge of the parietal as a fulcrum, while with the point the occiput was prized out. But I did not succeed in this way; so I followed the plan of Dr. Harrison, and cut down on each side of the lambdoidal suture; then with the flat end of a strong probe on one side, and a common director on the other, I could push out the edges of the occiput.

The effect of this prizing was most satisfactory. All the urgent symptoms were immediately modified or controlled by it, but would instantly return with all their violence, by letting the bone fall back into its depressed position. This experiment of prizing out the occiput was performed frequently, with the same unvarying results. But it could do no permanent good, because the peculiar shape of the occiput prevented it from overlapping the edges of the parietal bones. Holding the bone thus, did not suspend the disease—it only mitigated the symptoms, so as to make them bearable—proving, beyond all doubt, that they were the result of mechanical agencies, and that, too, independently of every other consideration. I did not think of tracheotomy at the time; but if I should meet with another such case, I shall feel no hesitancy in resorting to it, simply with the view of keeping the trachea open till time and position could do the balance.

What are the immediate consequences to *vital organs* arising from pressure on the great nervous centre, produced by the displaced occiput? Why, the first and most dangerous is the spasm of the glottis, the *laryngismus*, which might *possibly* be averted by a timely resort to tracheotomy. The next is the spinal congestion and hemorrhage, which can be effectually prevented by a proper lateral decubitus. And the last is a prolonged diarrhœa and a consequent marasmus, which cannot be controlled by remedies, as long as the pressure persists. Thus it is seen that the *immediately* dangerous condition is the strangulation, the closure of the glottis. Case V. is an example of what may be endured, provided the respiratory function is not interrupted. This child had trismus from the end of the first week, till it was nearly five months old, but from peculiar circumstances, the pressure was thrown high up on the occiput, and was

expended, no doubt, principally on the mesocephalon, and hence the respiration was not obstructed.

I have shown that the ultimate expenditure of the pressure is upon the medulla oblongata and its nerves. If the symptoms were the result simply of compression of the cerebellum, then would the effect be crossed—exhibiting itself on the opposite side, when the pressure happened to be more on one side: but such is not the fact. For instance, in Mr. Winter's son (Case III.), "the *right* edge of the occiput was pushed *under* the corresponding part of the parietal bone, while the *left* was riding *over* its parietal neighbor," and it had "occasionally a little *spasmodic quivering* of the *right* arm and leg, but not of the *left*. The movements, or spasms, of the arm and leg were, as well as could be determined, synchronous." Of course this could not be from the position of the *left* edge of the occiput, for it was in its proper place, and when the *right* edge was made to assume a like position, every abnormal symptom vanished instantly. Hence it originated from pressure by the *right* side of the occiput, expended on the *right* side of the medulla oblongata. Cases VIII. and XII. illustrate the same law.

I might dwell upon some other points that need further investigation, but in the absence of a sufficient number of facts, it would be a waste of time.

It is not presumed that I have explained everything in connection with this subject; far from it: much remains yet to be done. My observations are but a small beginning.

I have the history of several cases not included in my published papers. Of this disease, besides a long list of those denominated trismoid, twelve have been remedied simply by rectifying the displaced occiput.

I now leave the reader to judge how far the cases related will sustain the announcement made at the outset of this paper—"That trismus nascentium is a disease of *centric origin*, depending upon a mechanical pressure exerted on the medulla oblongata and its nerves; that this pressure is the result, most generally, of an *inward* displacement of the occipital bone, often very perceptible, but sometimes so *slight* as to be detected with difficulty; that this displaced condition of the occiput is one of the fixed physiological laws of the parturient state; that when it persists for any length of time after birth, it becomes a pathological condition, capable of producing all the symptoms of trismus nascentium, which are instantly relieved simply by rectifying this abnormal displacement, and thereby removing the pressure from the base of the brain."

REVIEWS.

ART. XIV.—*Elements of General Pathology: A Practical Treatise on the Causes, Forms, Symptoms, and Results of Disease.* By ALFRED STILLÉ, M. D., Lecturer on Pathology and the Practice of Medicine, &c. Philadelphia, 1848: Lindsay & Blakiston. 12mo. pp. 483.

BOTH students and teachers have long felt the want of a treatise in our own language on General Pathology, as an aid and introduction to the study of Special Pathology,—something more complete than the few brief chapters devoted to this important and interesting subject in certain late works on practical medicine. A more copious work of reference for the definition of the terms and the description of the phenomena of disease was needed, than is afforded by medical dictionaries—in short, a work from which might be learned the absolute value and meaning of symptoms and phenomena in themselves, and thus furnish sound general notions of etiology, semeiology, and pathological changes. That the ideas of students are generally very obscure upon these subjects, is a source of annoyance, as well to themselves as to their teachers. They learn the names of things without any distinct idea of their meaning or causation; they hear a group of symptoms by name described as being present in a given disease, and regard each one as something belonging to the disease itself, because they have neither physiological nor pathological knowledge enough to know how these symptoms arise or what they indicate.

But it is not students only who may derive benefit from the study of general pathology, "comprising as it does within itself, the most unpretending elements and the most exalted philosophy of medicine." It is not to be regarded simply as the introduction, but as the complement to the study of disease. It is the result of the combined observation and matured judgment of the profession—an exposition, not of one man's experience, but of the ascertained laws and admitted facts of ages. Some of the highest problems of the science must necessarily be discussed in a treatise of this character, and no one is so advanced in the knowledge of his profession, that he may not, in a good treatise on this subject, find much food for information and reflection.

To fill up this void in our medical literature, three books have nearly simultaneously made their appearance: one, the excellent and classical treatise of Chomel; another, the admirable Principles of Medicine by Dr. Williams, both already noticed in this Journal; the third, the work of Dr. Stillé, whose title heads this article, and which, as the *original* production of an American author, we shall review somewhat in detail.

The work commences with an introductory essay on medical truth, its nature, sources, and means of attainment. This chapter cannot be too warmly recommended to the diligent perusal, and deep reflection, of young medical men. The author defines and describes the nature of revealed, intuitive, and demonstrative truth, but shows that medical truth differs from all of these. It is inductive, it is neither to be imagined nor guessed at, and in few cases can it be strictly demonstrated. "Its origin

is not in the mind, but in external nature;" close and patient observation of facts, and experiment, furnish its only basis, and the analysis and co-ordination of these give us its laws. It is in the full spirit of this inductive or Baconian philosophy, so ably expounded by Dr. Bartlett in his *Treatise on the Philosophy of Medical Science*, that this work is conceived and executed; and happy will it be for the progress of the profession in this country, if our young men are early imbued with these doctrines, and taught to reason and study in this spirit. It is in this direction alone that medicine can make solid and reliable advances; and now that the ardour of progress, the active straining for novelty, and new discoveries in chemistry, physiology, and therapeutics, are weekly filling our medical journals with half-fledged theories, ingenious suggestions, and fanciful analogies—brilliant, and but too seductive to the warm imagination—it is more than ever necessary that this cautious, sure, and certain mode of philosophizing should be deeply impressed upon the minds of our young men, to discipline their reason, and show them the true limits within which our sicence may be successfully prosecuted.

This mode of study and reasoning has, at all times, been the only one by which the profession has really advanced. The works of those great masters of our art which have always commanded the respect and confidence of the profession, no matter what was the reigning medical doctrine—works which we now cite confidently as worthy of credence, and to whose streams of wisdom we cannot too often revert, have certain marked features in common. They are all works of observation, not of theory; works containing the evidences of diligent study of nature, not of fanciful reasoning; presenting us with clear descriptions of facts, not *à priori* enunciations of principles. They abound in the history of the origin, march, symptoms, and events of disease, not in formulas, recipes, and antidotes. The great principles of management are laid down in a simple, clear, and comprehensive manner. Regimen, hygiene, and attention to the efforts of nature to relieve herself, are insisted upon. They endeavour to sketch the general plan found most serviceable in treating a given class of diseases, and not to formulize a treatment for any individual case. They recommend simplicity and moderation in the use of drugs, but the closest attention to all surrounding circumstances, in the prevention, management, and convalescence of disease. Such are the striking characteristics of the works of Hippocrates, Galen, Aretæus, Baglivi, Sydenham, Hoffman, Huxham, Heberden, and others, whose names will be forever venerated, while those of the founders of sects, the champions of theories, the advocates of this or that exclusive system, or the confident discoverers of controlling remedies, have passed away with the dreams they promulgated. Their names, at most, are sometimes referred to as a warning to those who would venture on unsafe paths, allured by the specious promises of an ardent imagination, to seek a nearer road than the toilsome path which leads to truth. These views should be impressed upon the minds of young medical men. They must be taught that there is no royal road to medical science. Labour, study, patient investigation, a determined will to work, a sincere love of truth for truth's sake, are the only means to make a true physician.

The author advocates and illustrates the numerical method, as applied by M. Louis, and which he regards as one of the most efficient means of arriving at trustworthy conclusions, and the whole of this essay is a clear and forcible exposition of the tone of mind which pervades the whole treatise.

After a chapter devoted to some preliminary observations on General Pathology, the definition and nomenclature of diseases, we have the first part of the work very properly taken up with etiology. This important branch of General Pathology has of late years been greatly elucidated by the hygienic researches of medical men, and the steps taken by some governments, national and municipal, to improve the hygienic condition of large cities and manufactories, as well as by the copious statistical and registration reports, which have afforded an immense body of facts from which important conclusions have been numerically deduced. A more thorough and minute study of the causes of disease is imperative upon the well educated physician of the present day, if he would keep up with the progress of his science, whose spirit is to study the philosophy and natural history of disease. The scientific medical man who would fulfil his mission of benevolence to society, must not only know how to recognize and treat diseases, but how to prevent them by timely advice to the members of those families who are under his charge: as a philanthropist, his usefulness is greatly increased when he is enabled not only to exert this preventive care upon individuals, but upon society at large by diffusing his knowledge. We regret that Dr. Stillé has made this part of his book so strictly elementary, and that he has confined himself almost to simple definitions. Fearing to become hypothetical, he is almost barren, and lays down only those doctrines which are so commonly admitted as to allow of no discussion. What he says is for the most part wholly unobjectionable, but not full enough to be satisfactory.

The author says: "The word cause is used in two senses. In the one it signifies that invisible power and mysterious bond which connects two successive events; not the antecedent merely of an event, but its efficient antecedent, or that without which it could not have taken place. * * *

"The other sense of the word cause is the only one which here concerns us. It has been well defined as the antecedent, or concurrence of antecedents, upon which a phenomenon is unconditionally and invariably present."

"Unfortunately, there are perhaps no causes of disease which strictly fall within this definition, for there are none, except in two or three specific maladies, which are invariably and unconditionally present. Hence it becomes necessary to regard as causes, those which are present in the large majority of instances.

"Diseases arise under circumstances so wholly dissimilar, that different, and even opposite, causes must be assigned to the same affection. That is to say, different causes appear to produce identical results; but only appear to do so. Thus, diarrhœa may follow the application of cold to the surface of the body, or the presence of some irritating substance in the bowels, or an impression upon the mind. In each case the apparent cause of the disease is different, but beyond doubt, in each also the diarrhœa may have had some common antecedent; as, for example, the sudden plenitude of the blood-vessels of the alimentary canal. But so long as this common element remains undemonstrated, it is necessary that the nearest tangible antecedent of the disease should be viewed as its cause.

"The intensity of morbid causes, the circumstances under which they act, and the condition of the individuals subjected to them, are so infinitely various, as to render it quite impossible that any great uniformity should be found in their effects. The individual who, to-day, is proof against the infection of an epidemic malady, may, by the loss of a single night's rest, become its easy victim on the morrow. Of a large number of persons exposed to the same morbid influence, no two may be affected in precisely the same way. A certain degree of heat or cold, or stimulation of any kind, may not only be well supported, but enjoyed, and yet a very slight augmentation of the same action may give rise to violent or destructive disease. Examples of a like description might be multiplied, but these suffice to show that in etiology, as in other departments of medicine, there can be nothing more than an approximation to truth. It is impossible

to predict with certainty, that a particular effect will result from the application of a given cause, and equally so to assert, which one out of all possible influences may have given rise to a particular case of disease, unless those immediately antecedent to the attack be minutely detailed.

"If, then, some portions of the ensuing remarks should appear to be vague, and less precise than the practitioner desires, let it not be forgotten that the subject is one whose propositions admit only a low degree of probability, and that this amount of proof has been still farther lessened by the very negligent and superficial manner in which medical observers have generally been content to inquire into the causes of the affections submitted to their treatment. Daily observation proves that no error is more common amongst the vulgar, than the attribution of effects to wrong causes, and that in fact, one-half of the grossest of popular superstitions spring from this source. It is no more than was to be looked for, that physicians who relied upon the testimony of their patients for ascertaining the causes of disease, should adopt, and by their writings perpetuate, the mistakes of the ignorant. The human mind instinctively demands a cause for every event, and in its eagerness to be satisfied, as readily adopts the apparent as the real explanation."—pp. 61, 62.

All this is very well, and very true, but still is no good reason why, even at the expense of a little vagueness, the inquiring student should not be taught a little more of the physiological and pathological action of such common producing causes of disease as heat, cold, moisture and dietetics, than the author has chosen to give us. Without speculating as boldly as Liebig, or asserting as confidently as Williams, even within the limits of philosophizing he has laid down for himself, he might have given a little more definite aid and information to students, who unfortunately do not always reason very logically, and sometimes not at all, upon these and similar subjects, but who are apt to be just as empirical, and to do more harm by their use and abuse of these mighty agents than in any other way.

The following paragraphs we think important enough to transcribe:

"The countries of Europe which are generally said to enjoy a temperate climate, are situated between 45° and 63° of northern latitude. Within these limits, as has been stated, the human race acquires its most perfect physical development, and all that it does is marked by energy. And so of its diseases. They are for the most part sthenic; characterized by powerful reaction, and the inflammatory type, they tolerate decidedly antiphlogistic treatment, and that not unfrequently even when they prevail epidemically. Affections of the lungs and heart, with rheumatism, are more prevalent in these than in other countries. In America the limits of the temperate region must be included between other degrees of latitude. Its southern boundary should perhaps be placed about the latitude 39° on the eastern side of the Alleghanies; and, west of the mountains, on the lower boundary of Tennessee in latitude 35°. In all of this extent, inflammatory affections prevail; nor can it be otherwise, since the vicissitudes of temperature are greater there than in any other part of Christendom. The difference between the mean temperature of the hottest and coldest months in the year, is 45° F. at Philadelphia, while it is but 31° F. at Paris.

"The extreme heat and cold of the climate of so large a portion of the United States, have probably some tendency to enervate the inhabitants, by exhausting their strength during the summer months, and habituating them to the close air of overheated rooms during the winter. The prevalent custom in our large cities, of warming houses with hot air, may, like putting plants in a conservatory, prolong the lives and increase the comforts of the delicate and sickly, but it can have no other influence on those of good constitution than to render them effeminate, and subject to all the maladies incident to a climate not only capricious, but violent in its caprices."—p. 68.

We fear that many of our modern comforts are purchased at the usual high rate paid for luxurious indulgences, weak and broken health. The close, dry, heated air of anthracite fires, the double windows, the noxious fumes

of gas, now so generally introduced in city dwellings, the precautions taken almost against the possibility of ventilation, are bad substitutes for the open wood fire, and the less artificially constructed houses of the olden time.

Our author's observations on age, sex, constitution, temperament, idiosyncrasy, &c., are all sound, but obnoxious to the objection we have already stated, that he is too brief. In every case of disease, there is not only the essential element of the disease, but also an individual or personal element impressing its peculiarities upon its march, symptoms and treatment. Now these individual elements as derived from age, sex, temperament and constitution, are but referred to and little insisted on in our practical treatises. The young medical man has but a dim perception of their importance, and naturally would refer to a work of general pathology for some full information on this head. It is a serious want at present to have the state of medical science clearly stated and systematized on this subject. In the rigid study of the exact phenomena of disease, and search after the relation between symptoms and lesions, the disease itself assumes often too much of the observer's attention as being the only thing worthy of it, while the patient's system, and its powers of influencing and modifying the march of the malady, are in danger of being overlooked. Clinical instruction and experience afford the best opportunity of acquiring this kind of knowledge, but this is not always obtainable by students, and we know of no modern book to which we can refer them for satisfactory and copious information.

The best chapter in this section of the work is that on the specific causes of disease; it is eminently clear and philosophical, divested of the technicalities and hair-splitting distinctions which often confuse beginners, as to the distinction between infectious and contagious diseases, presents fairly the present state of our knowledge upon these subjects, and is more full and elaborate than the preceding ones.

In the second part of the work, we have discussed the general phenomena, theory, and classification of diseases, general diagnosis and prognosis. The whole of this portion of the book is well written, and deserves the highest commendation, not only for the lucid and satisfactory manner in which the different subjects are defined, but for the sound philosophy which pervades it. We particularly recommend the chapters on diagnosis and prognosis to the thoughtful perusal of the young practitioner, as being replete with invaluable hints and directions. Dr. Stillé well says, in speaking of the qualities of a medical observer—

"Strange as it may seem, the fact is perfectly demonstrable, that good observers are quite as rare as good reasoners. In science, as in religion, there are many 'who having eyes, see not, and having ears, hear not.' From the beginning of time to the present day, the same material phenomena have been presented to the senses, but in medicine, with comparatively little profit, until a recent date. This stationary, or even retrograde, condition of medicine is attributable, as was explained in the Introductory Essay, to erroneous views entertained respecting science in general, and particularly medical science. An inferior value has been attached to observation, as a means of discovering truth; and consequently, the partial observations actually made, were generally conducted without method, and in a spirit wholly opposed to sound philosophy. It was reserved to modern times to lay anew, and with imperishable materials, the foundations of medical science; and if the labourers in this work have frequently employed the stones belonging to the old edifice, they have dressed them over again,—laid them with a more accurate line and rule, and united them with a far stronger cement."—p. 163.

The directions for investigating a case of disease, and the mode of recording and generalizing medical cases, as laid down by our author, are

admirable, and described so plainly and minutely, that they may be safely taken as a model by whoever wishes to train himself as an observer. Educated himself under the lessons of M. Louis, that prince of observers, Dr. Stillé has drunk deeply of his method and spirit, which he has developed in these chapters with such clearness and comprehensiveness as to enable all who will, to comprehend and follow. The description of the different modes of physical examination which follows, is equally full and explicit, and contains much valuable information of a practical kind. In speaking of auscultatory percussion, as recommended in 1840, by Drs. Cammann and Clarke, of New York, Dr. Stillé says,—"We were lately assured by one of its inventors, that it continues to be practised by them with success; but it does not appear to have been extensively employed as a means of physical diagnosis, because simple percussion has been found so generally sufficient, that pains have not been taken to test the value of the proposed substitute." The neglect of this valuable means of diagnosis, which does so much credit to native research, is unfortunately too true; but surely it is not because simple percussion is a sufficient substitute. It is as much the complement of mediate percussion, as this latter is of direct: it extends and widens the field of its application; gives to it, in many cases, a precision that it alone is insusceptible of, and may be applied successfully in many others of differential diagnosis, where ordinary percussion is wholly insufficient. During the last eight years, we have been in the habit of constantly resorting to this method, in a large hospital practice, with the most satisfactory results; estimating the size of the heart, even when covered with the borders of an emphysematous lung; determining the line of separation between two solid organs, pressing against one another—as, for instance, a scirrhous tumour of the stomach pressing against an enlarged liver;—a large cancerous kidney adherent to, and continuous with, the lower edge of the liver, so that from the palpitation of the abdomen, the tumour had been taken for one occupying the liver, but where the error was at once detected, by using this mode of percussion. The most frequent and useful application of this mode of exploration is in compound fractures of the bones, where applying the stethoscope on one part of the bone, and percussing along its shaft, the exact point and direction of the fracture at once becomes evident the moment the finger reaches the seat of the lesion of continuity. This is done without inflicting pain on the patient, by handling the limb to ascertain the presence of crepitation, or subjecting him to the chances of increased inflammation, from laceration of the parts by the spiculæ of bones. A little practice will soon enable any one, whose ear has been already educated to appreciate the phenomena of auscultation, to avail himself of this valuable addition to our means of diagnosis, which seems not to be recognized on the other side of the Atlantic, and to be but little esteemed here because it has not a foreign descent to give it some *prestige*.

The third, and most bulky portion of the work, is devoted to semeiology; and here, perhaps, our author is seen to the greatest advantage, for this division of his treatise is not only very full and complete, but the characteristics of both his mind and style being precision and accuracy, his definitions and explanations are so lucid, that they leave little to be desired. They are, moreover, mingled with so little hypothetical explanation, that they are on this account particularly adapted to the student, who wants, as his elementary foundation, what is known and established, because he is not yet prepared, either from knowledge or observation, to judge for him-

self of the probable truth of the ingenious suggestions and plausible explanations with which these subjects are often decorated. Our author's distinction between signs and symptoms—a distinction puzzling to many beginners—may serve as an illustration of the precision we speak of.

"Semeiology is that part of pathology which treats of the *signs* of disease. It differs from symptomatology, which treats only of *symptoms* in the abstract. The terms sign and symptom are very commonly, but erroneously, employed by medical writers as synonymous. This leads, as do most other inaccuracies of language, to a misconception of things, to confounding together an actual phenomenon and an operation of the mind, and presents a clear apprehension of the place which symptoms should occupy in the investigation of disease. Before entering, therefore, upon the department of semeiology, it is proper that the meaning of the terms just mentioned should be strictly defined.

The phenomena of disease are symptoms. All that instructs us in regard to what is hidden or obscure, in the past, present, or future state of a disease, is a sign. *Signum est id quo cognito alterius ignoti notitiam inducit*, is the definition of Galen. Hence, every symptom may become a sign, but every sign is not a symptom. A quarter-dollar may be described by enumerating its colour, specific gravity, &c.; these, its qualities, are to it, what symptoms are to a disease. But if the white colour and weight of the coin be employed to distinguish it from a half-eagle, which it resembles in form and impression, and its value in cents is declared as indicating what it will bring, the colour, weight, and numerary value become so many signs; diagnostic signs distinguishing the piece of money from another one, prognostic signs determining how much food or other commodity a tradesman will give in exchange for it. Symptoms, therefore, are converted into signs by the mental act of the observer. A patient may be more familiar with the symptoms of his complaint than the physician: he is unable to learn what they signify. This it is the physician's province to do, and this he must do, as a preliminary step to any rational judgment in regard to the nature of the disease, or the treatment which it calls for."—p. 214.

"Again, it is customary to speak of functional phenomena only as symptoms, and of those revealed by physical exploration as signs, as if the latter were *par excellence* significant. Besides being, as already shown, an abuse of language, such a phraseology is founded on a purely arbitrary division. For it surely constitutes no essential difference between two phenomena, that one is perceived by the sense of hearing and the other by that of sight. A pulmonary rhonchus is appreciated by the senses neither more nor less than paleness or emaciation. No one denies that the character of the pulse is a symptom, yet this is quite as much a physical phenomenon as the dullness of the chest in pleurisy; and it is perceived by the very same sense, that of touch, which measures the size, and estimates the consistence of an abdominal tumour. The only difference is that the last two phenomena are supposed to require a more careful, prolonged, and difficult examination than the first."—p. 215.

Nearly one hundred pages are taken up with an admirable description of the signs furnished by the circulatory and respiratory apparatus, giving ample evidence that the author is deeply versed in the use of these invaluable means of diagnosis, which form one of the greatest achievements of modern medicine. His description of these signs is at once so full and clear as to make it all sufficient as a text-book on these subjects. We next have a novel explanation of the cause of the impulse of the heart, which is dwelt upon at some length, and ably sustained by an array of both physiological experiments and pathological facts, which appear to us very satisfactory. This explanation enables us to account for a fact we recently observed, where there was very considerable hypertrophy of the ventricles, without any increased impulse. Similar absence of increased impulse we have met with before, but not having written down at the time the condition of the auricles, we cannot trust sufficiently to our memory to appeal to them.

This explanation differs from the generally received opinions upon this subject; and as we regard it a matter of great importance, we shall let the author speak for himself.

"What now gives rise to this impulse? The more generally received opinion is that of the party maintaining the diastole of the ventricle to be slow and gradual, and is that the impulse is due to the shock of the apex of the heart against the parietes of the thorax, during the systole of the ventricle, and to this cause alone. The doctrine which appears to be most strictly in accordance with facts is, that the cause of the impulse is the diastole of the ventricles, its force being proportioned to the power with which the auricle propels its contents into the ventricle. Independently of all experiment, it would be difficult to comprehend how the contraction of a hollow muscle could have any other effect than to diminish its volume, or that it could while contracting give a blow to a body external to itself. But vivisections of cold-blooded animals confirm the justice of this objection to the received doctrine. When the heart of a frog, which is transparent, is examined, the apex is seen to be thrust forward at the same instant that all the dimensions of the organ are enlarged, and its colour shows it to be distended with blood, while the apex is retracted simultaneously with the lessening of the size, and the disappearance of the colour of the heart. In other words, the projection of the apex corresponds with the diastole, and its retraction with the systole of the ventricle. Certain cases of malformation go to confirm this view. One such is reported by Cruveilhier, to this effect. A child was born with a deficiency in the upper part of the sternum, through which the heart projected. It lived nine hours. In this case the contraction of the auricles was exactly synchronous with the dilatation of the ventricles. During the ventricular systole, the heart contracted in *every* diameter, and no part of it was thrust forward except the apex, and that only with a slow, spiral motion. The ventricular diastole, on the other hand, 'had the rapidity and energy of an active movement triumphing over pressure made upon the organ, so that the hand closed upon it was opened with violence.' This movement was accompanied with a strongly marked projection of the heart downwards. The rapidity, energy, and direction of the ventricular diastole here observed, demonstrate this movement to be the cause of the cardiac impulse. Very similar phenomena were presented in an analogous case reported by Dr. Robinson, of Petersburg, Va., in 1833; and both cases, it is plain, are confirmatory of the results obtained by vivisections of cold-blooded animals. The combined evidence thus very summarily and imperfectly produced, warrants, it is believed, the conclusion, that actual inspection of the movements of the heart, when made under favourable circumstances, teaches that the *impulse is synchronous with, and caused by, the diastole of the ventricles.*

"There is another proof of the same proposition derived from considering what takes place in hypertrophy of the ventricles. It is commonly taught that hypertrophy of the heart is accompanied with augmented impulse. Laennec, Corvisart, and nearly every writer upon diseases of the heart, and upon the application of physical methods to their examination, affirm it; and Dr. Latham goes so far as to say that 'hypertrophy cannot exist without excess of impulse.' One would suppose that such uniformity of doctrine could only result from great clearness and constancy in the evidence of facts; that it was a legitimate induction from many well-observed cases of hypertrophy. And yet it is no more than a deduction from an imperfect theory; the testimony of observation is directly adverse to its truth. Indeed, several observers have pointed out the fact, without succeeding in explaining it, that the impulse is not always proportioned to the degree of hypertrophy. Thus, Dr. Pennock, in his valuable edition of Hope, says 'that hypertrophied hearts do not always beat with the force that might have been anticipated.' Dr. Corrigan of Dublin, in analyzing a number of cases of ventricular hypertrophy, declares that 'in all of them the impulse of the heart was *less* than natural, and in some could not be felt at all.' Andral asserts that 'the impulse is not necessarily increased in every case of hypertrophy; and that in some cases of concentric hypertrophy, there is no perceptible impulse.' Chomel in like manner informs us 'that patients are not unfrequently met with, in whom the heart has become uncommonly developed from hypertrophy and dilatation of its cavities, and yet

without the energy of its impulse being increased, and even with a positive decrease of its normal force.' These citations might be multiplied, and confirmed by the analysis of cases of ventricular hypertrophy; but they suffice to show that if, as a general rule, increased development of the ventricle co-exists with an augmented impulse of the heart, this coincidence is far from being uniform.

"Now, from what does this discrepancy arise? How does it happen that hypertrophy of the ventricle is sometimes accompanied with diminished, and sometimes with augmented, impulse? It evidently cannot be explained upon the supposition that the impulse is due to the systole of the ventricle, and proportioned to the muscular power of its walls; and it must remain inexplicable so long as this theory of the impulse is adhered to. But if, laying theories aside, we compare any number of cases of cardiac hypertrophy, showing increased impulse, with another series in which the impulse is diminished, we arrive at a curious result, viz: that in every one of the former class of cases, there is *auricular* hypertrophy, either alone or in combination with a like state of the left ventricle; and that where the impulse is not augmented, or feebler than natural, there are either dilatation and thinning of the auricle, or the hypertrophy is altogether confined to the ventricle; in one word, we find that *permanently augmented impulse of the heart coincides with auricular hypertrophy.*

"A further confirmation of this proposition is derived from the following pathological fact. It is well known that, under several circumstances, the pulsations of the heart do not agree in number with those of the arteries; that two or three of the former may be felt for one of the latter. Now, if the impulse of the heart were owing to its systole, the cardiac and arterial pulses should coincide exactly, since the heart cannot contract without throwing some blood into the arteries, and producing a pulse in them; but as there may be several cardiac impulses felt, for one that is arterial, it is plain that the prevalent theory is at fault, while that which has been proposed in the foregoing remarks furnishes an adequate solution of the difficulty. The want of correspondence between the cardiac and arterial pulse is observed chiefly in two cases; first, when the heart is feeble; and secondly, when its mitral orifice is obstructed. In both cases a smaller quantity of blood than natural is at first thrown from the auricle into the ventricle, a quantity insufficient to distend the latter cavity, or to stimulate it to contract; at each contraction of the auricle, the ventricle is partially filled, and each time strikes against the ribs; but its own systole does not take place until its repletion is accomplished.

"If, then, it may be regarded as proven that there is a constant connection between augmented cardiac impulse and *auricular* hypertrophy, on the one hand, and between this hypertrophy and the energy of the ventricular diastole on the other,—and further, that the cardiac impulse is synchronous with the ventricular diastole—the conclusion is irresistible that *the impulse of the heart is caused by the diastole of the ventricle, and proportioned to the muscular power of the auricle.*"—pp. 319, 320-321.

The fourth, and last part of the work is devoted to general morbid anatomy, and exhibits the same amount of knowledge, research, and just discrimination on the part of the author that we have remarked elsewhere. He writes as one who has seen much, and is perfectly conversant with his subject in all its bearings. The directions in the second chapter on the mode of conducting post-mortem examinations, will be found invaluable by many who have not been in the habit of making such investigations. The author may well lament the almost total neglect of the subject of morbid anatomy in many of the principal schools of the United States. Many of these schools have no hospital attached to them to afford cases for examination. The bodies brought into the dissecting-rooms are used almost exclusively for the purposes of special anatomy, and very rarely can a history of the disease of which they died be obtained. The subject is taught as a distinct branch but in few. Bodies are occasionally "opened" in private practice, but for the most part by those who are so little conversant with morbid appearances, that they have little conception of what

constitutes a healthy and what a diseased condition of the different tissues; who are unable to discriminate between the appearances which indicate inflammation, and those of simple hypostatic congestion. We have ourselves seen, within the last few years, a physician, having charge of a large hospital, open the abdomen in a case of fever, and from the simple inspection of the peritoneal face of the intestines, because they did not look particularly discolored, pronounce the alimentary canal perfectly healthy. Dr. Stillé too truly says:—

"When these examinations are made, it is too commonly the fashion to proceed at once to the presumed seat of the disease, and having detected a supposed sufficient cause, to abandon further dissection as useless. It may safely be said, that, if anatomists in general had contented themselves with such superficial inquiries, the science of morbid anatomy would not yet exist, and that so long as it is thus slightingly prosecuted, we must be content to hold a very subordinate rank in the medical republic. The cultivation of this department demands unusual devotion, enthusiasm, and perseverance; private practitioners can do little more than contribute an occasional addition to its stores, which must be mainly enriched by physicians attached to public institutions. Even these, if they have not been taught by a competent instructor, must grope long in obscurity, seeing without understanding, and describing much erroneously or imperfectly, and be content, also, to devote many hours of severe and disgusting labour, to obtain a very moderate degree of proficiency."—p. 412.

This part of the book presents a compendious and admirable *résumé* of the different changes produced by disease in the normal constituents of the body, as well fluid as solid. The subject is well treated, presented with great clearness, and in such a form that the young aspirant for knowledge may readily gather from it enough of the important elements of morbid anatomy to go on and study special pathology with advantage. Speaking of the morbid changes of the blood, which are again of late years attracting so much attention, and assuming so prominent a place in the explanation of many diseased processes, the author admirably points out the wide difference between the modern and ancient humoral pathology.

"It is not uncommon for writers of the present day to speak of the importance now attached to the morbid states of the animal fluids, as indicative of a return to the old humoral pathology; but, in doing so, they confound things essentially different. The humoral pathology adopted in the Hippocratic writings, and servilely followed in succeeding ages, was a pure hypothesis, which, as was stated in another place, assumed that the body was composed of four humours, whose various combinations produced diseases. These combinations were, at the commencement of the seventeenth century, estimated by Sanctorius at eighty thousand! In the last century or two, much indeed was said of the acridity and putridity of the blood, and some imperfect notices of the physical changes occurring in that fluid, were recorded. But there is little analogy between the views now entertained, concerning the influence of the blood in disease, and those speculative notions which ruled so long in medicine. The ancients not only imagined the humours, but also their qualities and effects. With inquirers of the present day, the subject is simply one of observation, experiment, and induction. If here and there a medical chemist, impelled by the force of genius, and elated by the wonderful results of his favourite science, overleaps the bounds of legitimate reasoning, and wanders in the trackless field of speculation, but few among the more eminent pathologists are tempted to follow his erratic course. The soundest thinkers receive his revelations with distrust. There is, in fact, a general unwillingness to adopt them as settled principles, until they have been tested by men of large experience in studying and treating disease; by men who regard the animal economy as something more than a machine, and the stomach as something different from a chemical retort; who recognize in it a vital chemistry, and vital dynamics, governed

by other laws than prevail amongst the instruments of the laboratory and the workshop."—p. 420.

We have thus briefly glanced at the contents of this treatise, destined by its author more particularly for the use of students, and we can most conscientiously recommend it as in every way deserving not only their attention, but also that of the profession at large. It is a real and valuable addition to our medical literature; conceived and executed in the best spirit of medical philosophy, inculcating facts that are known and proven, with scarce any admixture of doubtful hypothesis, and therefore a safe and proper book to place in the hands of a student. The larger work of Chomel which has lately been made available to the profession through the translation of Drs. Oliver and Morland is better adapted to the more advanced practitioner; while the *Principles of Medicine*, by Williams, with all its merit and originality, mixes up so much of speculation with facts, that its true value can be appreciated by him alone who has read and seen much for himself.

We are happy, also, to have it in our power to speak thus highly of an *original* American book. Of translations, republications, and compilations, we have an abundance; but it is with a prouder feeling that we receive a sterling native production like the present, and point to it as proof that our country contains sound and accomplished physicians, imbued with a true notion of the importance of their science, and competent to produce works which are really ornaments to medical literature.

Art. XV.—*Principles and Practice of Surgery.* By the late George M'Clellan, M. D. Edited by his son, John H. B. M'Clellan, M. D. Philadelphia, 1848. 8vo. pp. 432.

It is somewhat remarkable that, with our liberal supply of medical schools, our numerous corps of able teachers, our crowds of students in constant need of text-books, and our thousands of practitioners in daily need of books of reference, we are yet so deficient in systematic works, especially in the department of surgery, by the writers of our own country. America has produced many erudite, investigating, and practical surgeons; and our periodical literature alone, not to speak of detached essays, monographs, memoirs, and reports, is sufficient to show that, amongst us, surgery has been successfully cultivated as a science, as well as practiced as an art; and yet, up to the present moment, leaving out the valuable compends of Dorsey and of Gibson, we can point to no great and comprehensive exposition of the principles and practice of surgery by an American.

The work before us does not supply this deficiency. Its author may possibly have contemplated, with the view of some day fulfilling, this commendable undertaking. But his hand, alas! has been arrested! He has been suddenly cut off in the midst of his career. The present publication is but a fragment of what he had projected; and even this appears to have been left unfinished, and to have required shaping and retouching to prepare it for the press. His son, the editor, thus speaks of it:—

"As if forewarned by some undefinable impulse, that he might not be spared to carry out his entire object, he seemed bent upon hastily finishing what was

meant to be the first volume, and its earlier pages were actually passing through the hands of the printer, whilst he was endeavouring to complete it. Suddenly cut off in the midst of these labours, the whole manuscript was left in much confusion, and many of the subjects in its latter part were incomplete. With little clue to his intentions, other than the knowledge of his opinions, derived from some years of daily practice and observation with him, I have endeavoured to complete all that was left unfinished, in strict accordance with his peculiar views. Preferring to leave everything as nearly as possible as it came from his hands, I have not felt myself justified in interfering with the distribution or division of the different subjects."—P. viii.

How far the printing of the work had progressed at the period of the author's death, and what has been the extent of editorial additions or alterations, we have not the means of knowing. The editor's initials are first met with at page 330; but he elsewhere informs us that he has affixed his own mark only to such of the notes as are not intimately connected with the text. And these, as he states, relate chiefly to important operations by the author, "which it seemed due to his professional memory should be mentioned," and which, with others still unpublished, he promises, at some future day, to furnish in detail. He is not without hope that, with these and "a vivid recollection" of his father's opinions, he shall be able "to carry out the work to the extent originally contemplated."

The opening sentence of the author's preface is in keeping with what we have often heard of his character and habits as a practical man. He comes to his point at once; and whatever we may think of its temper, we must, at least, allow that it is strongly tinctured with common sense. "I have always believed," says he, "that no inexperienced man ought to be suffered to write a book on medicine or surgery."—(p. ix.)

The spirit of the remark is just, though strongly in contrast with the usages and customs of our modern literary democracy. It expresses, too, more than we detect upon the face of it; and is not without wit. For it is, at once, a distinct announcement of the author's title to our attention; and an assurance that, in things pertaining to medicine and surgery, we are about to deal with one who can speak with some authority.

We have also heard it said, that "no one should presume to appear in print who has nothing new to communicate." There are, however, some good books which the profession would not willingly suppress, although written by men of but little personal experience. And there are others, not a few, equally good, the present among the number, which are made up, for the most part, of thoughts and opinions with which the profession had previously been sufficiently familiar, and which are as readily recognized and referred to their original sources as one could recognize an old acquaintance in a new association, or in a new dress.

While, then, we agree with the lamented author of the volume before us that "the world is already too full of useless publications, successively copied from one another," we are still disposed to leave literary exertion, like every other department of honest enterprise, to take its own course, believing that most of such publications are about as harmless as they are useless—that the publisher's announcement is usually the last that is heard of them—and that the principal, if not the only evil resulting from them, is their draught upon the pockets of those who are engaged in their production.

The field of surgery is, at the present day, an extensive one: no man can hope to be so familiar with it, or to explore it so thoroughly in every part, by his own unaided energies and opportunities, as to be in no need

of calling upon others to aid him in describing it. The merits of a treatise on the principles and practice of surgery, then, consist not so much in attempts at originality as in a comprehensive and masterly exposition of so much of the general doctrines of medical philosophy as bear directly upon it; in a judicious, clear, full, exact, and orderly detail of the subjects embraced in it; and in an unbiased statement of the arguments, facts, and opinions upon which its most approved generalizations and practices are founded. The author's illustrations and manner of disposing of his materials, rather than the principles upon which he treats, should, as far as possible, be drawn from his own resources; his judgment should be sufficiently quickened and matured by experience to guard him against hastily adopting or rejecting the views of other men; his love of truth should be paramount to all other considerations; and he should be continually on the watch against prejudice, egotism, and hypothesis, both in advancing his own observations and in citing those of other individuals.

With these general views as to the merits of a treatise on surgery, we are not disposed to find fault with the author of the present work, that, in its production, he has not drawn exclusively upon himself. While treating on the disturbances of the nervous system, he, perhaps, could not have done better, in the present state of our knowledge, than to adopt the opinions of Dr. Marshall Hall. In speaking on inflammation he could hardly get on without referring to John Hunter, or to the followers and disciples of that great man, or even to the chemists and microscopists of the present day. We have nothing to complain of that, in treating on the venereal diseases, he has thought proper to adopt the general views of Mr. Carmichael, whatever we may think of these ourselves; and we are not certain that we should demur very loudly at the free use he has made of the Pathological Anatomy of Vögel, in the latter part of his book. But we are advocates of consistency, and do not clearly see why an author of great experience, who draws his opinions from the common stock of the profession, should denounce all writers of moderate experience who only do the same thing.

Dr. M'Clellan, indeed, appears to have had some scruples of this sort on his own account, and to have seen how much easier it is to lay down rules than to follow them. For, says he, "my present situation before the public is somewhat of an exception to my own rule."—(p. ix.) While shunning the character of a compiler, he is hardly prepared to appear as an originator; and, consequently, he is willing, from the start, to associate with the legion of reputable writers who modestly assure us that the position they assume is forced upon them, and not of their own choosing; and that they are compelled to appear in print either by the urgent solicitations of their friends, to whose judgment and wishes they are ever more ready to yield than to their own, or by the love and affection they bear to their pupils, or to those who have been their pupils, and who will no longer take "no" for a refusal.

"I have now arrived at that period of life which I always thought entitled an educated and observing man to be heard; and my old friends and former pupils will give me no further indulgence in the way of resisting these demands. They all claim of me the published reports of my extemporaneous lectures, delivered years ago, during successive winters, in the Jefferson and Pennsylvania Colleges of this city. Some of my most attentive hearers have drawn up abstracts for me, and kindly threaten to print a volume of such matter if I do not gratify them by filling up the manuscript blanks with my own corrections and additions, as I can best recollect how they were originally delivered." "I have been obliged, there-

fore, to shut myself up occasionally from the world, at least for an hour or two at a time, and reproduce my former train of ideas and facts, as I was in the habit of giving them extemporaneously in the lecture-room."—p. ix-x.

The book, however, is not a book of lectures, nor prepared in lecture form. A very considerable portion of it—one-fourth, at least—could hardly have been delivered in the lecture-room at all, having been mostly made up for the occasion, and prepared, to use the author's own expression, "*currente calamo.*" "One idea," says he, "has necessarily grown upon the top of another, until I have in this manner rapidly accumulated the outlines of my views and experience on the principles and practice of surgery."—(p. x.)

The first peculiarity that attracts attention in the body of the work is a want of the customary subdivision of the principal subjects of discourse into chapters and smaller sections. The headings are but few, without numerical arrangement, and not always sufficiently clear to distinguish the main topics under consideration from the minor ones involved in them.

The first ninety pages are occupied in considering the immediate effects of injuries upon the system. In this the author treats, first, of disturbances of the nervous system, under the several heads of shock, reaction, constitutional irritation; and, secondly, of disturbances of the vascular system, in which he speaks of inflammation, with its various concomitants, complications, and consequences.

The next hundred and thirty pages are taken up with a series of special subjects—erysipelas, furunculus, anthrax, abscesses, ulcers, burns and scalds, the effects of cold, and wounds, with their complications, among which are included hemorrhage, tetanus, hydrophobia, and poisoned wounds.

The following seventy-eight pages are devoted to Venereal Diseases; and the remaining portion of the volume, about one hundred and twenty pages, is employed in the description of Morbid Growths, including Tumours and all other Morbid Deposits, benign and malignant.

It is not our object, on the present occasion, to attempt either a minute analysis, or critical examination of statements and opinions in the work before us; with nearly the whole of which the profession are already sufficiently familiar. We can notice only a few of the more prominent passages: and in our selection of these, we hope to be guided more by the desire of exhibiting the general merits of the book, than by any wish to hold up a few objectionable passages to criticism or comment. We are the more disposed to adopt this course from the consideration, that the work is, in part at least, a posthumous publication; and that in its present form it may be looked upon as much in the light of a memorial to be hereafter cherished by the professional friends and acquaintances of its author on his own account, as in the light of a contribution to the surgical literature of the day.

The immediate Effects of Injuries.—Dr. M'Clellan begins the consideration of this subject by intimating that surgical writers have hitherto dwelt on inflammation too much to the exclusion of other almost equally prominent circumstances. Every individual tissue, he remarks, has its peculiar mode of action, and presents its corresponding modifications of disease. "The lower orders of the animal creation, like vegetables, appear to be insusceptible to inflammatory processes," and the actions of the human frame can be greatly disturbed, independent of any of the stages of inflammation. "The more immediate effects of injuries, and all other influences

which produce similar results upon the animal fabric," he infers, "are unquestionably communicated through the nervous system." (p. 13.)

With these opinions, particularly the last of them, we are not disposed to cavil. But we may remark, that the effects of injuries upon the nervous system have not been overlooked by previous writers; and that one important reason for their not having been hitherto satisfactorily illustrated, is owing to the very significant fact that we know so little about them. The true physiology, as well as the pathological actions and relations, of the nervous system, has yet to be explored. And, notwithstanding the jargon of learned words in which the subject has been of late involved, many of which appear to have been recently adopted from the geometricians, we are yet as much in the dark in respect to the functions of the nervous system, as our professional ancestors were, in the days of Galen, or at any other period prior to the times of Harvey and Servetus, in regard to the circulation of the blood.

How far the lower orders of the animal kingdom are insusceptible to inflammation, as intimated above, we are not prepared to say. We are not without some evidence that even in the vegetable kingdom something analogous to the reparative processes of real inflammation does now and then occur. The common leech does not range high in the animal kingdom; and yet we have ourselves watched it for weeks together, after an injury, manifesting many of the phenomena that are usually said to depend upon, or result from, inflammation; namely, rigidity, with loss of retractile power, swelling, discoloration, gangrene, sloughing, the line of demarkation, the ulcerative process, and final cicatrization.

Shock.—Dr. M'Clellan commences the consideration of this subject by an exposition of certain nervous actions and influences in accordance with the views of Marshall Hall. He then proceeds to speak of shock, as either partial or general. His account of these two varieties is succinct, and to the purpose; and the course of treatment which he points out for their management, is such as is generally adopted. We would add to his suggestions a word or two of caution against disturbing patients too much, especially in attempting to remove them in a hurry, or to a great distance, immediately after the receipt of severe injuries. Much harm is at times effected in this way, especially in cold and inclement weather. When the patient is at a distance from his home at the time of the accident, the rule should be, to place him under as comfortable circumstances as possible, at some place near by; in which he may have the benefit of seclusion, pure air, and proper attendance, until reaction is so far established as to admit of his safe removal either to his home, or to the infirmary at which he is to be subsequently treated.

The following passage we find in the form of a note. But the practical observer will recognize its truthfulness, and be, perhaps, disposed to give it as much consideration as if constituting a portion of the text.

"It is a singular fact that more patients recover after reaction from a complete and overwhelming concussion of the whole nervous system immediately following an injury, than after some of the apparently more moderate forms of shock. When the syncope is not complete, the mind being conscious of impressions, although torpid and incoherent, and the pulse hurried and tremulous, with the respiration sighing, and the discharges involuntary, after a terrible injury, the forces are almost sure to run down in a very short time, without any subsequent effort at reaction. In some such cases the symptoms of disturbance are so slight at first as hardly to be appreciated, and as the forces are afterwards worn down by the actions consuming the excitability, a final condition of prostration super-

venes, which has been called secondary shock. I once saw a poor fellow, whose leg was crushed on one side up to the knee, and on the other up to the trochanter, and one arm also up to the middle of the humerus, by the wheels of a railroad train. He lost but very little blood, and did not sink into complete syncope for almost an hour after the occurrence, of which he died in about another hour. In the meantime he was possessed of mind enough to tell me of his birth-place in Germany, his friends and his property, and to express his wishes about messages to be sent to his home."—p. 16.

Under the head of *Insidious Shock*, Dr. M'Clellan speaks of a class of cases well worthy of special attention. We here also recognize the force of his description, though, on this point, he is in some respects rather rhetorical than exact.

"In some very severe cases of injury a peculiar kind of shock is given to the nervous system, which is too little known by our profession. The patient may be somewhat agitated and confused at first, but presently complains of little or nothing. He suffers no pain or inconvenience of any kind, and is hardly willing to have the attention of a surgeon directed to his wound. The pulse and respiration remain undisturbed; and the bystanders apprehend no danger from the appearances. Inexperienced medical attendants take no alarm, and perhaps every one prognosticates favourably. But the case looks altogether too well for one of such magnitude. A great joint has been torn open, a terrible compound fracture is present, or several of the large muscles and nerves have been lacerated, and yet no corresponding disturbance is manifested.* The skin continues cool and transpiring; the tongue clean; and the secretions natural. Such cases may be compared to those which occur in the outbreak of a yellow fever and other malignant epidemics. Patients will then be seen walking about, and perhaps attending to their regular duties, until the very moment when they drop down and die."—p. 17.

"The only symptom, in addition to the above detail of circumstances, upon which an intelligent surgeon can depend in the diagnosis of this kind of shock, is a semeiological one. The countenance of the patient is altogether unnatural. It presents an inquiring, anxious look about the forehead, eyes, and upper portions of the face, while all about the mouth and lips is smiling and composed. It resembles the mixed sad and cheerful expression which our great novelist, Dr. Bird, has attributed to Montezuma in his captivity, and by which some authors have attempted to characterize the whole of our aboriginal race—a melancholy smile about the lips, indicative of their fatal proclivity to destruction. There is another circumstance about the expression of the countenance, which will strike an intelligent observer. When you first approach the bedside, the patient will look up at you with a stare of alarm and suspicion; and he will repeat this expression constantly as often as you approach him to make any inquiry. No matter how long you remain in the room, whenever you attract his attention, his forehead will be drawn up, and his brows contracted into a scowl of suspicion, mingled with anxiety.

"If these patients do not always die, certainly every practitioner should be cautious in giving a favourable prognosis. The probability is, that not more than one in a hundred can possibly recover; and we may put down this as the most dangerous kind of shock."—pp. 18, 19.

The subject is further illustrated by the recital of a case. It appears to have been a favourite theme with our author; for, he again takes it up, with reference to cases, while treating on the subject of Wounds, considerably farther on in the volume.

Reaction.—After alluding to that mild degree of reaction which, in healthy constitutions, and after injuries of moderate severity, soon subsides without much active interference, our author proceeds to speak of reaction of a severer grade:

* As Hunter observed—"*Nature requires to feel the injury.*"

"But after an interval of prostration from a shock, and especially, when any tissue or organ has been predisposed to disease from previous morbid or debilitating influences, injurious results are apt to follow the reaction. The sudden increase of excitement throws the blood, and perhaps the principle of innervation, too severely upon the debilitated parts. Vascular engorgement, vital, or functional disturbance, irritation, and finally inflammation, may all successively arise from this cause.

"There is another circumstance which should be adverted to in our speculations upon this point. During the stage of torpor or depression from a shock, the power of being acted on by stimulants (the excitability of Brown) is increased often to a morbid degree; so that the influence even of the natural stimuli of life becomes subsequently the cause of diseased excitement. This latter condition, indeed, constitutes the very essence of local irritation, and also of morbid irritability, which latter condition becomes the foundation of what modern surgeons have so much dreaded under the name of constitutional irritation.

"In our management of cases of reaction, it is obvious that care should be taken not to allow the procedure to run too high, or continue for too long a period. Direct depletion, however, can rarely be necessary, except in very full habits, and during very violent excitement. There is always some risk of sudden depletion being followed by a repetition of the prostration, or with what we shall subsequently have occasion to notice under the head of irritative excitement dependent on loss of power to sustain itself. In general, sponging with cool water, fresh air, and a moderate elevation of the head, will sufficiently subdue the excitement following reactions of every kind."—pp. 19, 20.

Irritation.—This term, as employed in pathology, has always been sufficiently vague. We cannot find fault with our author for not having succeeded better than his predecessors, in furnishing us with a clear account of what is meant by it.

"It is generally believed by the profession that irritation consists, in all these cases, in a mere derangement of the principle of innervation, totally unaccompanied by vascular excitement. It must be conceded, however, that the ingress of blood into the vessels of a morbidly irritable part, is one of the means of rousing this irritability into action. The natural excitability being altered as well as increased after the reaction from an injury, all the ordinary excitants, even of health, become productive of diseased actions."

"Irritation occurs before the access of inflammation, and may continue for a long period totally uncomplicated with it. If vascular turgescence, however, be allowed to arise in the same part, and continue there, that morbid condition of the blood-vessels which is termed inflammation will certainly be developed. The irritation does not terminate at the access of inflammation following under such circumstances; but the degree in which it is complicated with the inflammation, modifies the character and violence of the latter disease accordingly."—p. 23.

The phenomena of irritation must vary with the peculiarities of the structure and function of the parts, or organs involved in it. And in order to consider these modifications in the phenomena of irritation, our author proceeds to speak of them at considerable length, under the several heads of Irritation of the Brain, Irritation of the Urinary Organs, of the Stomach, of the Liver, of the Heart; and, finally, of Irritation of the Nerves, as affecting the body generally.

He is not disposed to believe with Cullen and others, "that the irritation which produces spasm of any kind, must be founded on debility. Spasm," he observes, "may occur in strong as well as in weak muscles—in vigorous and plethoric, as well as in weak and emaciated persons; and, in many respects, they may be associated under the same considerations as pain. Pain, indeed, has been pronounced to be a spasm of a sensitive part. It is the evidence of an irritation in one of the nerves of common sensibility; while spasm is indicative of a similar irritation in one of the

muscular nerves of the spine. Irritations of the nerves of special sense," he continues, "do not produce pain, but simply disturbance of function; and so also of the nerves of the whole sympathetic system."

"When a plethoric or active state of the circulation exists in company with a flushed countenance and warm skin, antiphlogistic remedies, in some shape, will always be proper, at least as preliminary treatment, for each kind of these irritations. When the face is pale, and the skin is cool, and the circulation not excited, opiates or narcotics of some kind are always resorted to by the profession, and sometimes in enormous doses, for both conditions. In both it is equally necessary to obviate all the causes of irritation in every part of the system. Emetics and purgatives are resorted to for the purpose of relieving the injurious influences of deranged *primæ viæ;* and attention to the state of the bladder, of the heart, and of the brain, is enforced whenever their condition may be supposed to influence either pains or spasms.

"These affections may be further compared in various respects. They equally tend to the destruction of life, when developed to excess. Extreme pain or spasm will abolish the vital forces, either by operating with sudden intensity, as secondary causes of shock, or by exhausting them from frequent repetition. In milder degrees they indicate more or less favourable results, according to the circumstances under which they occur. We apprehend no danger from them when accompanying reaction to a moderate extent, or when the system is not sinking from other causes. We can always obviate such conditions by anodynes, if the measures which we have resorted to for relieving the other causes of disturbance do not immediately succeed. In cases where there is no pain or spasm, under circumstances where these ought to occur, we have equal reason to fear that the system is not able to resent the effects of the injury. If the relaxing effects of undue hemorrhage have not been the cause of this, we of course apprehend all the dangers of an insidious shock."—p. 35.

Passing on from Injuries of the Nervous Apparatus, our author next speaks of the *Effects of Injuries upon the Blood-vessels*, or, in other words, of

Inflammation.—In this connection we have a sufficiently clear account of the general doctrines and phenomena of Inflammation,—of Redness, Heat, Swelling, and Pain; of the Extension of Inflammation, Inflammatory changes of the Blood, Inflammatory Fever and its Treatment, Suppuration, Ulceration, Granulation, Cicatrization, Hectic Fever, Irritative Fever, and Mortification. Our author is quite at home on these topics; which, however, furnish little, or nothing, upon which we can at present afford to dwell. That experience of which he has spoken in his preface, has, we fear, had not much to do in helping him to his remarks on *microscopic inspection of the blood* as a means of aiding us in practice, as well as in the diagnosis of diseases.

"This disposition to a more speedy and easy separation of the colouring and fibrinous principles of the blood in inflammations, is evinced in small quantities as well as in masses. If a very thin stratum is allowed to flow over a piece of glass, the globules of inflamed blood will be seen immediately to aggregate themselves into clusters, leaving the intervals and edges pale and evidently composed of colourless fibrin and serum intermixed. The smallest drop of the same kind of blood, when placed in the field of a microscope, will, in the same manner, show an instant separation of the red globules from the liquor sanguinis, piling them up into columns like counted coin, with interspaces filled by the colourless globules and serum. We can easily, therefore, avoid the hazard of general bloodletting in doubtful cases; and decide whether inflammation exists or not by extracting a single drop of blood from the patient."—p. 49.

The following passage on the *power of the body, under certain forms of disease, to bear with advantage enormous doses of special remedies*, is

drawn from observation. But we are not to infer that the remedies thus spoken of, are ever to be employed so freely as our author's words might seem to justify.

"It is an admirable provision in the natural laws that qualifies most of the organs to bear the influence of such remedies as are calculated to remove their respective diseases. Thus, the nervous system, when afflicted with painful or spasmodic diseases, will tolerate much larger quantities of opium and other narcotics than in health. From sixty to one hundred grains of solid opium have often been given in a day for colica pictonum, and in tetanus, without producing any stupor, or other narcotic effect; the whole influence of the remedy being exhausted in overcoming the disease. Enormous quantities of stimuli are given, on the same principle, in some of the prostrate states of the system from diseases, without producing anything but a salutary effect; and prodigious doses of antimonials are tolerated in inflammations of the chest. In painful retentions of urine, and in strangulated hernias, a strong decoction of tobacco has been successfully injected into the rectum, without exciting either nausea or prostration; and in several forms of syphilis, mercurials can be given to almost any extent, without leaving behind any injurious effect."—p. 55.

Dr. M'Clellan is eloquent in the praise of *nitrate of silver* as a remedy for overcoming many of the local forms of inflammation. In most of his remarks upon this useful agent, we are ready to coincide with him. But on some points he has, here again, we fear, ventured to speak more strongly in its praises than his experience would have justified. We know something of the use of nitrate of silver in the treatment of purulent ophthalmia. But we here learn for the first time, that, in consequence of the use of this remedy alone, "it is now hardly possible to lose an eye from that once dreaded disease." (p. 62.)

Hunter versus Schwann, Henle et aliis.—In his account of granulations, our author, after stating some of the points of difference between the views of Hunter and those of the modern microscopists, proceeds to draw a lively comparison between the old and the new doctrines. We must endeavour to make room for it.

"As physiology and pathology have both made a leap since the establishment of the cell-doctrine, it may not be altogether useless to institute a comparison between this new theory, more *in extenso*, and the long cherished hypothesis of Hunter. It will at least prove satisfactory to know how far the progress of microscopic discovery has gone towards superseding the splendid conceptions of the great investigator of life.

"The parallel which we have drawn between the two favourite theories of granulation, may be extended through all the other phenomena of organization, both in health and disease. All that Hunter attributed to the formative power of this coagulating lymph of the blood, the microscopists now credit to the organizing influence of the cell-globules, or nucleated cells of the same blood. He supposed that the blood, when effused among the living parts in very small quantities at a time, by virtue of its coagulating lymph, formed within itself its own vessels, which, by anastomosing with the capillary orifices of the surrounding parts, attracted the circulation into its interstices, and thus, by their actions, built up a new or additional organization. When the pure lymph is effused among the living parts, the same explanation of its organization was advanced by him, and maintained by all his followers. The capillary vessels were supposed to be formed spontaneously, within the mass of lymph, by its own inherent powers; and not by any extension, like a vegetative growth, of the surrounding vessels into its substance.

"It was a singular circumstance, that Sir Edward Home and Mr. Baer, in endeavouring to illustrate this doctrine of their great master, by proving how the vessels could be formed in fresh drawn blood under a microscope, should have almost anticipated the cell-doctrine itself. They observed what they thought to be numerous small particles or bubbles of fixed air arranging themselves by a

species of polarity in straight lines in a drop of fresh drawn blood. These appeared to form lateral openings into each other respectively, so as to constitute a series of capillary tubes, which, by opening a communication with surrounding vessels, might become blood-vessels themselves. Now where is the substantial difference between these observations and those of later microscopists? Were not the exceedingly small bubbles of air the same things under the microscope that are now regarded as formative cells or exudation corpuscles? It makes no difference as to the proper conclusion, whether we call them pale globules, whose outer surface shortly becomes covered with an epithelium, or nucleated cells, or de-nucleated red corpuscles, as others have done. The analogy appears still stronger when we recollect that all the cell advocates assert that they can distinguish these little corpuscles arranging themselves in straight lines, and opening into each other side by side, so as to become resolved into tubes. One might suppose that after having so satisfactorily explained the formation of blood-vessels, the framers of either hypothesis should have remained tranquil. Almost everything in the body can be done by the vessels. They are powerful to do, as well as to suffer. The disciples of Hunter attributed a full share of all the manifestations of life and disease, to the actions of the blood-vessels; and surgeons have always concerned themselves with the same agents, almost to the exclusion of other parts of the whole economy. But the enthusiastic advocates of the nucleated cells were determined not to remain stationary during the progress of discovery. By their microscopical researches, they have ascertained that the cell-globules, when conglomerated together, can convert themselves into cellular tissue, by forming lateral openings into each other in every direction, or by elongating themselves into caudated points in opposite directions After consolidation into elongated shapes, they convert themselves into filaments and lamellæ, which, in connection with the cellular interstices, form the general mould or matrix of the whole body. Into the areola or meshes of this general text-work, the same all-creative cell-globules insinuate themselves, and form the parenchymatous substance of every elementary tissue of the entire organization. The epithelium of these little molecules, on being flattened down by desiccation on the surfaces, constitutes the cuticular covering of all the parts, including the hair and nails. Not content with this extensive physiological application of the cell-doctrine, its advocates have made it answer a still greater number of problems in pathology. If these corpuscles exist in too great a proportion, they must be productive of disease; if they are too scarce in the body, some equally distressing derangement occurs. If they are in any way badly or imperfectly constituted, or disorganized, some difficulty either in the functions or organization must be produced. From the use of the microscope, most of our recent authors appear to be able to detect in the form of globules floating in the blood the procreative elements of cancer, of fungoid tumours, and of scrofula. The entozoic and animalcular doctrines of the old surgeons have got quite out of vogue; and the nucleated and caudated cells are now placed in the chair of state by all our theorists. In the "Vestiges of Creation," we have been presented with a brilliant specimen of human genius in the way of extending this new doctrine to its ultimate limits. From the monad to a monarch everything is done by the action of the cells. The first cell-germ that was formed at the beginning of animated nature has been reproducing itself by an infinity of multiples ever since; and to account for all the diversified living forms that ever have existed, we have only to conceive that this multiplication has been at so many periods successively arrested in its different stages of development. The first stoppage of the process of cell multiplication would present an animal of a very low type of organization, possessed of a very small range of functions or powers. After this had gone on reproducing itself a few millions of times, until nature had got tired of its sameness, a leap would be made into a higher form of organization by the mere multiplication of the cells. By successive repetitions of this process, it is supposed gradually to have happened that all the races of animated nature have been finally created. Faculty after faculty has been added to former faculties of life, according to the rise in the complications of structure; until at last the powers of reasoning have been attained in connection with the cell-germ fabrication of a brain. The fœtus *in utero* is supposed to undergo a similar course of successive developments, except that the multiplication of its formative cells is at no period arrested until the final perfection

of its form has been attained. We must, then, according to the doctrine, have passed during the first six months of uterine existence through all the forms and assumed all the types of the whole of our Pre-Adamic ancestry, from the earliest monad up to the first man himself.

"But enough of this folly. The cell-doctrine has already been carried too far for the sober sense of practical surgeons. Let it remain as a plaything for the fancy builders in science. Allow the microscopists to pursue their own researches, and work out their favorite results. "The tools to him who can handle them." We will follow the investigation of plain and tangible things, which we can see with our own eyes, and manage with the hands which God has given to us. It will add no strength to the certainty of our knowledge to decide whether a small particle of lymph be in the shape of a globule or a cyst before it becomes the medium of organization. The archetypes of Plato were just as important to the Baconian philosophy as such matters are to the progress of modern surgery. The chemists have found out that it is not necessary to ascertain the mathematical shapes of the integral molecules of matter, in order to study their laws of arrangement and combination. So we can go on with our pathological inquiries on the broad foundation laid down by Hunter, without stopping to question whether the three primitive monads were cubes, or tetrahedrons, or spheres."—pp. 72–6.

Senile Gangrene.—While treating of gangrene, Dr. M'Clellan alludes to a set of cases "which," he thinks, "ought to be characterized, for the benefit of practitioners." His characteristics we recognize; but not his pathological reasonings upon them. He gives, in the form of notes, several cases, by way of illustration.

"The cases to which allusion is here now made, all present the peculiar phenomenon of the patient holding the affected member in a depending position. No matter how bad and inflamed the parts may be, the limb will be held downwards, and frequently it will be impossible to prevent the sufferer from exposing it to the full blaze of a fire. It would appear as if the obstructed state of the arteries leading to the affected member, or their impaired condition of vitality, prevented the free access of blood to the limb, and, therefore, required the aid of gravity and of warmth to prevent the necessary access of blood into the capillaries. The minuter vessels and their controlling nerves being called on to make increased efforts to pump, as it were, the circulation through enfeebled arteries, necessarily generate the accompanying pain and irritative inflammation. The increased pressure of the column of blood from above, under the force of gravity, relieves them from the necessity of making such extraordinary efforts, comforts the irritated and exhausted nerves, and explains the advantages of a dependent position of the limb. The influence of warmth in some cases, and of internal carminative and diffusible stimuli, can also be satisfactorily explained on the same principle."—pp. 95–97.

We can refer to instances that have fallen under our own care, of senile or dry gangrene, corresponding, as we believe, to those to which our author here alludes; but so far as we remember, all connected with some embarrassment in the general circulation, as valvular disease of the heart, atheromatous deposits in the coats of the larger vessels, or thoracic effusions; or with some other source of constitutional disturbance, which, independent of the state of the affected limb, was of itself sufficient to prevent the patient from assuming the horizontal position. In referring to the cases which our author gives in evidence of what he considers this peculiar form of gangrene, we find that this was also clearly associated with one or another of these forms of constitutional disturbance.

In perhaps a majority of cases of senile gangrene, there is an evident degree of insensibility to acute suffering in the affected limb, and hence, when a patient is much incommoded by a sitting or recumbent posture, he will put his affected foot to the ground, and even walk about, with as little

apparent suffering from it as if it were entirely sound. We have at this moment under care a gentleman, about eighty-seven years of age, with gangrenous inflammation of one of his great toes, in connection with paralysis of the bladder. While the bladder is comparatively empty, he will keep his foot elevated without complaining; but as soon as the bladder begins to be somewhat distended, no persuasion can prevent him from pacing about his apartments, urging as a reason for so doing, that, "when a man is suffering, he must seek such posture as gives him least uneasiness."

The following statement in regard to the place of election for amputating after the arrest of senile gangrene, may occasionally be proper; but we do not believe it to be in accordance with general usage; and our own experience is, in some measure, opposed to it.

"After the complete arrest of senile gangrene, amputation may be completed at the line of separation, in most cases, with great benefit and comfort to the patient, but it can never be performed with safety through the sound parts above. The results of the trials made in the common way in this country, have been almost uniformly unsuccessful. If the patient stands under the shock of the operation, he almost invariably sinks in a few days or weeks from exhaustion, and that, too, without cicatrization of the stump."—p. 98.

Without resorting to written authority on this question, some of which Dr. M'Clellan undertakes to refute, we can remember at this moment at least one case which occurred seven years ago, in a man between seventy and eighty years of age, whose leg was amputated, on account of gangrene of his foot, at some inches above the line of demarkation, with complete success, the stump healing over as kindly as if the patient had, at the time, been of vigorous constitution, and of middle age. We hold to no absolute rule either for or against surgical interference, in the gangrene of old people, after the line of demarkation has been fairly formed. In a class of cases the causes of which may be so various, the surgeon must be guided by the circumstances peculiar to each individual, as to where or when to operate.

Erysipelas.—Hitherto, as we have seen, our author has been dwelling on the immediate effects of injuries; but with incidental allusion to other subjects that are naturally associated with inflammation. He next proceeds to speak of erysipelas. This he divides into simple, phlegmonous, hospital and gangrenous; and under the same head he treats of erysipelatous inflammation of the mucous and serous surfaces. His account of erysipelas, occupying about twenty pages, is, on the whole, satisfactory. We would perhaps have added a few remarks on some of its complications, and the treatment required by these; as for example, cerebral and other visceral affections, œdema glottidis, and suppuration of some of the larger joints from the extension of the disease to their synovial surfaces. Numerous and severe cases of diseases of the joints, some of them requiring amputation, the direct result of the extension of erysipelas from the superficial tissues surrounding them, have lately fallen under our own notice. The joints that we have seen thus attacked, have been the ankle, the knee, the wrist and elbow. In the instances calling for amputation, we have found, that, after the period of a very few weeks, the synovial tissues, as well as the articular cartilages, have been completely destroyed; but hitherto we have found the bare surfaces of the bone quite smooth, and free from caries or interstitial softening. We are not aware, without, indeed, having made much inquiry on the subject, that diseases of the joints are usually spoken of among the complications or results of erysipe-

las. The cases to which we refer, however, have all fallen under our own notice within the past two years.

The rules laid down by Dr. M'Clellan for the treatment of erysipelas, are such as are commonly observed by the profession in this country, with the exception, perhaps, of his advice to resort early and freely to the use of the lancet, in the phlegmonous form of this disease. Blood-letting may, doubtless, be occasionally demanded both freely and at an early stage, in some cases. But as a general rule, the tendeney of the disease to show itself in persons previously of a broken constitution, and to assume a typhoid form even from the first, should put us upon our guard against very active depressing modes of treatment. In the management of this disease, as it shows itself in hospital practice, it has long been observed, that, after attending to the secretions, and giving free exit to purulent effusions, a supporting and tonic course is usually called for.

The following remarks on the impropriety of resorting to blisters, with the view of checking phlegmonous erysipelas, are worthy of attention:

"The skin being not only over-excited, but greatly weakened by the destruction of the subcutaneous supply of vessels, is easily injured by a severe stimulus. The application of a blister, or of any other irritant, is then readily followed by sphacelation. Mild and soothing emollients must, instead of such applications, be resorted to, and free incisions made to discharge the offending purulent matter. The dead cellular tissue will afterwards float out with the sanies, in sloughs, like flakes of tow. By moderate and equable bandaging, it will then be possible to cause an adhesion between the under surface of the detached skin, and the lining surfaces below, and thus preserve its vitality."—pp. 109–10.

The author's picture of *gangrenous erysipelas*, or at least of a variety of this disease, which appears to be peculiar to rural districts, is not familiar to us. It is strongly drawn.

"During the harvest season of our northern latitudes, sporadic cases of this terrible malady sometimes occur among intemperate labourers who work from sunrise to sunset in the open air, and under an almost tropical sun. Stimulated by high daily wages, and the most pernicious kinds of alcoholic liquors, such men sometimes overtask their powers, and inflame their systems to the highest pitch of exasperation. The food which they consume at this season of the year is, moreover, especially unwholesome. It consists almost exclusively of badly cured salt meats, and heavy Indian corn bread, with the half decayed vegetables of the preceding year, combined with a harsh drink of fermented apple-juice, called cider, pickles, and a plenty of fresh milk. It naturally follows, that intemperance combined with such diet, and fatiguing exposure to an ardent sun for fourteen hours every day in succession, must tend to the production of the most dangerous state of constitutional irritability. Then the slightest prick or contusion will always be followed by a widely-diffused inflammation. But occasionally, an overwhelming and speedily fatal explosion of constitutional and local disturbance will supervene. A mower, who has a short time before struck his foot against the sharp point of a twig, or a reaper, who has merely scratched a finger with a stub of straw, will throw down his implement of labour, and scream with mortal agony. The injured member will suddenly tumefy, and present a glazy appearance with livid streaks, intermingled with green and yellow patches. Gangrenous vesicles will soon form, and a putrescent odour begin to exhale. The pulse will be feeble and tremulous, the skin cold, and the respiration hurried and moaning. The face will be contracted, or hippocratic; the breath putrid, the eyes glairy, and the epigastric region distressed with a sense of horrible oppression. In from twelve to twenty-four hours the poor wretch will die, with the limb enormously swollen, tense, and crackling, with all the appearances of a malignant erysipelas, terminating in gangrene. No treatment has ever been known to check the progress of this disease. The tumefaction and lividity will, in the meantime, have extended

up to the very trunk of the body, so as apparently to have invaded the vitals."—pp. 113–14.

Abscesses.—Passing over what is said on furuncle and on carbuncle, we next find our author treating on abscesses: and having already spoken of simple abscess under the head of Suppuration, he here goes on to describe diffuse, fetid, chronic, cold, lymphatic, and scrofulous abscess, and abscess by congestion. Under this head, we can make room only for his remarks on *lymphatic abscesses*, and the cases thereunto appended.

"It is very rarely, indeed, that a surgeon in extensive practice can meet with a decided effusion from a ruptured lymphatic, among the living parts. The constitution must always then be infirm, or the parts in a state of preternatural relaxation. The cases which most frequently occur, are those which result from unhealthy suppuration of the lymphatic ganglia, terminating in an ulcerative breach in some of the larger lymphatic trunks, and producing a more or less considerable effusion and distension. These are apt to remain fistulous after their discharge, and present a gentle lymphatic oozing for a long time.* Small lymphatic blebs or abscesses sometimes occur at the cicatrix after venesection at the bend of the arm, which evidently result from an unhealed puncture of a lymphatic vessel. They are very easily ruptured, however, by pressure, and continue to discharge the pure lymph *guttatim* for a season. The application of a pointed stick of pure lunar caustic, and subsequent pressure with graduated compresses, will speedily obliterate all such discharging orifices. Sometimes congenital fistulous orifices of the lymphatics appear in infancy, and continue for years, discharging occasional drops of pure lymph. These especially occur in the neck, along the course of the carotids, and may probably result from an incomplete closure of the lateral openings, found in that region during the earlier stages of fœtal development. The proper treatment is to excite obliteration of such orifices, by the application of a small red hot wire, or a pointed piece of solid caustic."†—pp. 127–28.

* One case occurred to me about ten years ago, in the right arm of a young man just above the internal condyle, in the usual situation of the first brachial lymphatic ganglion. He had been afflicted with a small abscess there about four years before, which left a small fistulous opening, from which a frequent lymphatic oozing occurred. Another, precisely similar, since occurred in one of the forearms of a lady, over the upper third portion of the anterior interosseal space, and continued for several months after the partial closure of every small abscess there. In some rare instances, dissection has revealed a very small lymphatic ganglion in that space along the course of the central lymphatics of the forearm. But an abscess on the course of the larger lymphatic trunks will terminate in such orifices, as well as abscesses of the glands.

† Some years ago I was consulted for a case of this kind, in the person of a daughter of Capt. Campbell, of Pine street. She was then about seventeen years old, and rather pale and delicate in her appearance. A very small and almost imperceptible orifice existed in the skin, directly over the anterior margin of the sterno-mastoid, in the middle region of the neck. A common bristle could hardly be inserted into it, and it resembled very closely one of the empty cutaneous follicles. A very small drop of transparent lymph could almost always be seen over this orifice, and every few minutes it would trickle down like a tear. On rubbing the neck with a slight pressure, especially upwards, this discharge would be considerably augmented; and I took advantage of this to collect a few drops in a teaspoon. The fluid underwent an imperfect or flocculent coagulation, as I have found always to be the case on repeating Magendie's observations upon the lymph, when extracted from the vessels of living animals.

One of the children of a late Hon. Secretary of the Navy, was born with the same kind of lymphatic orifice in the same region of the neck. When I saw it, the child was about three years old, and the discharge of lymphatic fluid had continued at intervals up to that period, from his birth. As the child was then ill with fever, I did not venture to cauterize the orifice, but suggested the cure to the parents for the consideration of their family physician, in a remote State of the Union. That was about five years ago, and I have just met with an intimate friend of the family, who says that the stillicidium of watery fluid still continues down the neck, with occasional interruptions.

Wounds.—Ulcers, burns, and scalds, and the effects of cold, offer nothing to detain us. But the subject next in order it would be unfair to pass over entirely unnoticed. Under the head of Wounds, we have a detailed account of the varieties into which those are commonly divided, and some further observations on Shock. Next follow rather full accounts of hemorrhage and tetanus, after which the author speaks of poisoned wounds, hydrophobia, dissection wounds, and malignant Pustule. Most of these subjects are well disposed of. We can notice only a few of them.

Time for the Removal of Ligatures.—As a means for checking hemorrhage from vessels of any size, Dr. M'Clellan, in common with other practical surgeons, trusts mainly to the ligature. In this we agree with him; but not in his haste for its removal. The time which he assigns for withdrawing it is far too short: and we fear that whoever undertakes to remove a ligature from an artery of even moderate size, at the close of the period mentioned by him, or at any time short of it, will, sooner or later, have serious cause to repent of his rashness.

"Although ligatures always prove somewhat irritating, and excite some degree of inflammation in their track, they can in general be brought away in *from one to four days*, by slight traction through the interspaces of the plasters, provided they have been properly applied around the mouth of the vessels alone. It is better practice to insure all the inconveniences of the ligatures, than to encounter the risk of exciting a greater degree of inflammation by the use of irritating styptics, for the purpose of arresting hemorrhage from large vessels."—p. 165.

Mode of applying Styptics.—The failure of styptics and astringents to check the loss of blood, is often owing to carelessness in the application of them. When pressure and astringents are to be employed as a means for the arrest of hemorrhage, the plan suggested below may be worthy of trial. The use of pressure over the vessel above the point of injury, during the application of the styptic agents, and for some time afterwards, is of great importance in rendering these efficacious.

"In many cases of secondary hemorrhage, we can succeed perfectly well without resorting to any cutting operation. If we get an assistant to make firm compression upon the main trunk of the artery above, while we are clearing out the coagula, and searching for the bleeding orifice, we can apply well graduated compresses loaded with styptics upon it in such a firm manner as to ensure a subsequent obliteration of its cavity. A powder composed of equal parts of powdered galls, tannin, and gum Arabic, applied by means of moistened compresses of lint or sponge, and bound down firmly with a well-adjusted roller, while the pressure is still maintained on the trunk above by an assistant, will often succeed to our full satisfaction. The reason why graduated compresses and styptics do not oftener succeed in the hands of practitioners, is, that they attempt to make such local applications, while the blood is still flowing from the orifice. To make them perfectly effectual, they should keep up the compression over the main trunk above, for half an hour, at least, after the styptic has made its full impression upon the wounded orifice. By that time the coagulation and contraction will have become so fully perfected, as to resist the returning impetus of the circulation."—pp. 189-90.

Caution against disturbing Hemostatic Dressings.—Dressings for arresting hemorrhage should not be incautiously removed.

Dr. M'Clellan makes some judicious observations on this subject which we need not cite. The case which he gives of improper interference with his hemostatic dressings, is to the purpose; but we fear it has been overcoloured. We can hardly be persuaded that it is correctly reported. No hospital surgeon, we are satisfied, could jeopardize the life of a patient for the empty gratification of knowing how Dr. M. thought best to apply his dressings.

"During the riots in Southwark, I dressed a horrid cannon-shot wound in the right groin of a young soldier from Germantown. He had been struck there with a broken piece of cast iron, with the fragments of which one of the cannon in the hands of the mob had been loaded. The whole fore part of the fleshy substance of the groin, in contact with Poupart's ligament, had been torn away, and a prodigious rent made across the artery, with a hole in the vein. He had flooded the floor, on which he lay, with gore, and was deadly faint when I arrived. It was late at night, and the rioters were all around. I, therefore, applied graduated compresses, and bound them down with a spica bandage. But it required two hours constant nursing, with his head and shoulders in my lap below the bedside, and the incessant use of cordials and brandy, to revive him. During his reaction the poor fellow was delirious, and wanted to go home. He had no return of hemorrhage, however, and by morning I got him so far recovered, as to have him transported in a carriage to one of the hospitals. There, however, somebody stripped off his bandage and pulled away the compresses, to see how I had dressed the wound! The blood gushed out in a torrent, and a second fainting process carried the patient off to a better world."—p. 115.

For checking Hemorrhage after Leech-bites.—To check the loss of blood from leech-bites is sometimes a troublesome task.

The common plan of resorting to caustic or a heated wire, our author rejects in favour of one which he holds to be quite as efficacious. The glazed surface of a piece of visiting card pressed firmly upon the orifice, he says, will answer the purpose. It possesses the advantages of giving no pain, and of leaving no scar.—(p. 199).

Tetanus.—We give below a rapid sketch of the distinctive features of the acute and chronic forms of tetanus, with an estimate of their comparative danger. The reader will not fail to notice the passing salute with which medical periodicals are honoured.

"The first makes very rapid progress, is excessively painful, especially at the paroxysms, and extends in a very short time throughout the whole muscular system. This almost invariably proves fatal, and may be compared to hydrophobia in danger, which indeed it resembles in many other respects. The chronic forms of tetanus extend very slowly, and are sometimes even confined to the muscles of the jaw, or back of the neck, throughout the whole progress of the disease. The paroxysms are never so severe or distressing as in the acute tetanus, and the disease is altogether more amenable to treatment. Almost all the cases of cure which have ever been reported, even in the boastful and ill-digested periodicals, have been chronic. Acute tetanus generally proves fatal in about three days from its commencement. Cases, however, sometimes occur in which death takes place in a few hours, and one case of a negro in the West-Indies has been recorded when death followed in fifteen minutes from the attack. Chronic tetanus often lasts for fifteen or twenty days, and if the symptoms are not getting exasperated by that period, we may hope to restore the patient."—pp. 203–4.

The differences between acute and chronic tetanus have long been recognized. The danger of the disease is usually in proportion to the rapidity of its advent and diffusion throughout the system. We admit too that most of the instances of reputed cure, have been comparatively mild, or of the chronic form. But we do not admit that the acute form, even in its severer grades, is not now and then amenable to treatment. We happen to be among those unfortunate individuals who have reported "in the boastful and ill-digested periodicals," some severe but successful cases of acute traumatic tetanus; and we have since seen others of the same character that have been prevented from running down, and by active interference, happily supported, until the disease has had time to resolve itself by its own natural limitation. For we look upon this formidable disorder, after having closely studied it both at the bedside and in the dissecting room,

as one unconnected with any morbid organic expression, and like many other purely functional disorders, in some degree self-limited. And we are led to believe that the danger of a fatal result during the progress of the disease, depends, for the most part, either on suffocation, from spasm of the glottis; on interrupted circulation of the blood, from irregular and sometimes spasmodic contraction of the heart; on the severity of the primary injuries that give rise to, and complicate, the constitutional disorder; or on general exhaustion from the prolonged and excessive excitement to which the whole frame is subjected, accelerated, in some cases, by inanition, and no doubt, in others, by injurious and heroic treatment. Although neither the force nor the rapidity of the disease appears to hold any relation to the severity of the primary injury, yet we have met with no cases of recovery where the primary injury was so severe as, of itself, to endanger life.

Dr. M'Clellan remarks that the acute form terminates fatally in about three days. He makes no estimate of the time in which it may terminate in recovery. From the cases that have fallen under our own notice, we are disposed to believe that the spasms begin to be mitigated about the seventh day. Patients that hold out to the end of the second week, usually recover. But the spasms yield only inch by inch: the parts first affected being those from which the spasms are first disposed to subside. They sometimes recur, however, with great severity as late as the third week, or afterwards, in parts which they appeared to have entirely left; and they often linger at one or two distinct points, as in the muscles of the foot, or of a single toe, for days after they have left every other part of the body.

We cannot go farther into our author's account of the symptoms of tetanus, than to allude to his remark upon the condition of the skin; which, he informs us, is often cold and torpid (p. 207). In the incipient stages, such may perhaps, sometimes, be the fact; but, as a general rule, after the spasms have fairly commenced, the skin is bathed in warm perspiration.

In respect to treatment, Dr. M'Clellan, after speaking of the various modes that have been adopted, is disposed to recommend large doses of solid opium, with an occasional cathartic of calomel in combination with croton-oil.

"The great constitutional measures, however, to be relied on in the majority of cases, are to tranquilize the system by large and frequently repeated doses of opium, and the maintaining of the regular action of the bowels by a combination of calomel and croton-oil, or some other active cathartic of an eccoprotic character. Hydragogue cathartics are always improper, because they deplete the circulation too severely, and prostrate the vital powers. The frequent repetition of the calomel, along with the opium and other remedies, not only assists in maintaining the secretions, but tends, fortunately, in some cases, to produce a critical salivation. In all hot climates, mercurials are found to be especially serviceable, and many judicious practitioners employ it freely by external inunctions at the same time that they are using it internally. It is astonishing to witness the quantities of active medicines which patients afflicted with severe tetanus require, to produce any positive effects. The system always acquires a remarkable tolerance of remedies in this disease. From half an ounce to an ounce and a half of solid opium is said to have been given in a day for this disease, without producing any narcotic effect. In the same the strongest injections of tobacco are required, in order to overcome the muscular spasms, and then they hardly ever prostrate the system. The influence of such remedies appears to be altogether expended in overcoming the irritation of the disease."—p. 208–9.

We have, in many instances, seen opium liberally, nay, rashly administered, though never to the extent above stated. And we have known patients profoundly and alarmingly narcotized by it, without any well-marked

or permanent benefit. The moderate use of opiates is admissible; but nothing further. Our own views of the treatment of this disease may readily be inferred from what we have already stated. Without entering into details, we may say, that our therapeutic agents consist mainly of antispasmodics, stimulants, and a supporting regimen. Among the first, we trust to assafœtida, either in substance, or an emulsion, and in large doses, frequently and perseveringly repeated; among the second, we resort to wine, porter, or to alcoholic drinks in moderate quantity, but increased in accordance with the previous habits of the patient, or the severity of the disease. Where there is no great difficulty in swallowing, the assafœtida and other remedies may be administered by the mouth; but when there is danger of spasm of the glottis, or too great rigidity of the fauces to admit of swallowing, these remedies must be administered by the rectum, and they are most efficacious when thrown well up into the colon through a gum-elastic tube. The assafœtida of itself usually acts upon the bowels, but if necessary, more active cathartics, as the tincture of rhubarb and aloes, must be combined with it.

Dr. M'Clellan reports two successful cases of acute tetanus, the only two, as he states, that have ever fallen under his own observation. These appear to have both been liberally plied with opium; but it will also be observed that, in the one case, the strength was maintained "by the liberal use of brandy with gruel;" and, in the other, "by the liberal use of brandy and gruel, with broths."

"In the case of young Mr. Bockius, of Germantown, whom I attended in consultation with Dr. Runckel, Sr., we first cut away the comminuted fragments of two metacarpal bones of the left hand, which had been shattered by the bursting of a gun, and dressed the wound with terebinthinates. We kept up irritation over the whole spine by frictions with croton oil and tartar emetic, and gave 82 to 86 grs. of opium a day, for about two weeks, without producing any coma or oppression The remedy appeared to expend all its powers in allaying the universal tetanic rigidity and spasms. We also rubbed mercurial ointment over the limbs, and gave calomel in combination with the opium, until a moderate ptyalism was produced. The bowels were kept open by occasional doses of croton oil, and the strength was maintained by the liberal use of brandy with gruels. In a few days the wound began to suppurate, and the rigidity and spasms disappeared. The patient has continued well for about fourteen years.

"The other case of cure to which I have alluded, was that of a house carpenter, Mr. McGlathery, in North Fifth street, who was seized with a universal rigidity and painful spasms on the ninth day after a deep puncture in the sole of one of his feet from a rusty nail. The wound was perfectly dry, and more than an inch deep, when I laid it open and stimulated it with lunar caustic. It was then dressed with spirits of turpentine and basilicon. As he was cold and shivering, I continued the use of a hot vapour bath which a steam doctor had begun to apply, for many hours, and gave three grs. of opium and five of calomel every hour, till an impression was made on the spasms. No narcotic impression was induced, although I increased the doses to nearly 100 grs. a day, occasionally. On an average, he took full sixty grs. of opium *per diem*, for twelve days, and the calomel was aided by mercurial frictions, until ptyalism was induced. The spine was at the same time irritated by blisters and tartar emetic ointment. He was supported throughout by the liberal use of brandy and gruel, with broths, and finally recovered perfectly."—p. 210–11.

Syphilitic Poisons.—Dr. M'Clellan is a believer in the plurality of syphilitic poisons.

"It is impossible, from the very nature of things, that septic poisons should not vary. The elements and products of secretion vary in the different parts of the same complications of organs, even in the same sex; and when we take into

consideration the commixture of these secretions, after irregular and promiscuous intercourse between the most filthy and negligent of both sexes, we can experience no difficulty in concluding, that the chemical or putrefactive reactions which take place among them, must be productive of diversities of animal poison. Each form of the virus on being once generated, may continue to be propagated for an indefinite period by contagion: or it may finally wear out, or be lost for want of means of communication; and then a new species be formed afresh from another concomitance of circumstances. In the same way we may conceive of a number of contagions going on collaterally at the same time, through different members of the same community, although not mixing with each other respectively."—p. 226–27.

The foregoing argument in favour of essential differences in the syphilitic virus, might be worthy of more consideration than we can bestow upon it, if it did not apply with as much force to the virus of small-pox, measles, scarlatina, &c., as it does to that of the venereal disease. Following the opinions of Mr. Carmichael, our author maintains as certain, what the other has advanced only as probable. "Thus," says Mr. Carmichael in regard to the different forms of the disease, "whether the variety is owing to a diversity of poisons, or a diversity of constitutions, is a question that can only be resolved by a series of experiments, which it is not to be expected that any man will be so public spirited as to submit to himself, or so unreasonable as to inflict upon others." (*Observations on the Venereal*, London, 1818, p. 5.)

But, says Dr. M'Clellan:—

"Like all other animal poisons, the different forms of venereal virus, when introduced into the circulation, produce a train of constitutional symptoms of greater or less regularity, and characteristic marks of an indisputable species, according to their durability of impression and the periods allowed for calling the different textures of the body into diseased action. Every virus which gains a rapid admission into the system, and produces an immediate effect upon the constitution, terminates in such tumultuous and dangerous excitement, as can hardly be arranged under any particular head of nosological arrangement. On the other hand, those which confine themselves a long while to the part with which they first come in contact, and are slowly afterwards propagated throughout the system, terminate in symptoms of a much more definite and characteristic form, susceptible of comparison and classification."—p. 228.

Our author having adopted Mr. Carmichael's views in regard to distinct species of syphilis, follows him also in the classification of these, in the delineation of symptoms and sequences by which they are characterized, and in maintaining the invariable connection between the primary and constitutional symptoms of each species. To enter into an examination of these disputed points in the history of the venereal disease, would be to undertake a review of the whole of Mr. Carmichael's doctrines and hypotheses, instead of a hurried notice of the work of our present author. And this we do not feel called upon to do at present.

Describing first the constitutional symptoms, and afterwards taking up the primary forms of the disease, the present essay is deficient in that simplicity of arrangement which should naturally grow out of the progressive developments of the disease itself, and which is, in some measure, necessary to make the description of it clear and intelligible to the student. Dr. M'Clellan's account of the various manifestations of the disease, however, is drawn with the ease and boldness of one who has long been familiar with his subject, and the course of treatment which he points out to meet and overcome these, is, in general, judicious and unobjectionable. In this

connection we shall offer only one or two comments on topics of minor importance.

Local Treatment of Nodes.—We have a special object of our own in alluding to so small a matter as the local management of nodes. Our author speaks of the treatment of periosteal swellings on two occasions: but on neither occasion do we meet with a mode of management which we have ourselves employed with marked advantage. "When the periosteum is affected," says he, "and especially when matter is confined beneath it, the stimulus of distension causes excessive pain and disturbance. What are called the nocturnal pains then become excessively distressing, and require deep incisions to relieve them." (p. 257.) He elsewhere alludes to the use of blisters, mercurial inunctions, lunar caustic, iodine, and anodyne embrocations. (p. 299.)

The practice to which we allude is, to divide the periosteum freely over the whole of the diseased part by a subcutaneous incision, leaving the skin untouched, except so far as is necessary to introduce the blade of a narrow, sharp-pointed bistoury. This practice we have employed for years past, as a substitute for the more formidable division of the soft parts. The relief obtained from the subcutaneous operation is quite as decided as from the free incision of the skin; and the inconveniences resulting from the latter, are in this way almost entirely obviated.

Local Treatment of Sympathetic Buboes.—These our author treats with the view of repelling them, on the principles that apply to ordinary inflammatory swellings. "The treatment," he observes, "is often more protracted and unsuccessful than in genuine buboes from absorption of the morbid poison of true chancre." He recommends leeches, blisters, emollients with lead water, and various stimulating and escharotic applications (p. 276). But he forgets to speak of repose, and of the use of continued and well-regulated pressure, either by means of the compress and spica bandage, or by the direct application of some weighty substance over the affected part.

Local Treatment of Gonorrhœal Inflammation of the Testicle.—In the management of this affection, Dr. M'Clellan speaks of active depletion, followed by mercurial cathartics, antimonials, and copious leeching over the scrotum; of the recumbent posture, elevation of the affected organ, and poultices with lead water, until the inflammation is overcome; afterwards a suspensory bag, the use of laxatives, and the application of a mercurial plaster to the scrotum (p. 276). We would add to the treatment for the early stage of the disease, a brisk emetico-cathartic, with a tobacco poultice to the scrotum: and to the treatment of the latter stages, firm and equable pressure by means of adhesive straps; renewing them from time to time, as the swelling subsides.

Morbid Growths.—The closing portion of this volume is an essay of 120 pages on the various forms of tumours, and other adventitious growths, benign and malignant. On this part of the book we scarcely feel at liberty to enter. The materials, as we here find them, could not have had the benefit of the author's revision, after his first draught. And although in these latter pages we meet with numerous and important details on some of the most interesting diseases that fall under the care of the surgeon, elucidated with a profusion of cases that have at different periods fallen under the author's own observation, yet, as a whole, this essay appears to us little else than a hurried digest of certain portions of Vogel's Pathological Anatomy. We may, therefore, reasonably suppose that, had its author

lived, he would have materially modified it, and perhaps have entirely recast it, before presenting it to the profession.

It is now full time to bring our notice of this volume to a close. In the perusal of its pages the reader will find abundant evidence to convince him that its author had the advancement of his profession much at heart; that he was an acute, assiduous, and bold practitioner; and that his surgical reputation was deserved. But he will find in the work the development of no new principles; and but little that can be looked upon as original. The author's principal claim to permanent reputation will probably rest on his numerous extirpations of the parotid gland. But the great number of cases upon which he has attempted this operation, and the record which is here furnished of some other of his more serious performances, must lead us to believe, that he was not, at all times, insensible to that sort of *éclat* which is, even still, so readily bestowed upon surgical temerity.

So far as the Editor has shown himself in the preparation of this volume, his task has been commendably executed. The hint which he throws out, of continuing the work to its completion, it may not perhaps be thought proper or expedient to carry into effect. We would, however, respectfully suggest to him, that by collecting and arranging under proper heads the more valuable of his father's cases, of which he has probably left written reports, and publishing these with a running commentary of practical remarks,—he might do more for perpetuating his father's reputation, and for augmenting his own, than can possibly be effected by attempting to complete the present work. J. W.

New York, *August* 12*th*, 1848.

BIBLIOGRAPHICAL NOTICES.

ART. XVI.—*An Inquiry into the Degree of Certainty in Medicine; and into the Nature and Extent of its Power over Disease.* By ELISHA BARTLETT, M.D., Professor of the Theory and Practice of Medicine in Transylvania University, &c. Post 8vo. pp. 84. Lea & Blanchard, 1848.

THE readers of Dr. Bartlett's "Philosophy of Medical Science," will assuredly not wait for the opinions of professed critics before procuring the little work of which the title has just been given. Whatever proceeds from this author relating to the foundations of medical evidence, or claiming to illustrate and defend that ancient faith whereby we live and make live, cannot fail to be received with honour and perused with interest, by all who are acquainted with his previous labours. This analysis is more directly presented to other portions of the medical public, to awaken a curiosity in them which they cannot gratify without gaining valuable instruction, and becoming more firmly and intelligently attached to the divine art which they profess. From the rare occurrence of technical words, and the explanations given of several of these, it may be presumed that the author of this essay addressed himself in a particular manner to non-medical readers; he indeed expressly states that he was moved to take up his pen by the one-sided and therefore false view of medicine, which had been given in the well known and widely distributed article of Dr. Forbes. To the poison which has so greatly, although indirectly, been imbibed from this production by the skeptical, both within the profession and external to it, Dr. Bartlett has prepared an antidote which, if applied with half the zeal that has been used to propagate the corresponding error, cannot fail, in a great measure, to neutralize it. Not to be misunderstood, we beg distinctly to say, that we regard Dr. Forbes's essay as mischievous, not because it is untrue, but because it does not tell the whole truth; because, as our author expresses it, the confession of the defects inherent in medicine was not accompanied "with the qualifications and conditions absolutely essential to the truth of the confession itself." If the confession had been made to physicians alone, instead of being disseminated amongst the laity, as it was in this country, by republication in a separate and cheap form, it would have been productive of almost unmingled good. It might, indeed, have moved the ire of that portion of the medical populace who can make no distinction between credulity and faith, and who are as incapable of reasoning logically as they are of observing correctly; but it would have stirred even more deeply and fruitfully than it nas done, the governing minds of the profession, and it would not have excited that apparent dissent and hostility, but real co-operation by carrying out the incomplete doctrine of its writer, of which the essay before us is the most important illustration. Of Dr. Forbes's paper we will only say, in addition, that it contains some positive errors which, although inconsiderable as affecting the general argument, have, nevertheless, been assumed as true, and dwelt upon as if they contained the pith and substance of the whole matter. We allude to the statistics of the homœopath, Fleischmann, which are now ascertained to be not only incorrect, but wilfully false. That credit should have been attached to them originally, arose from the fact, that in Vienna all practitioners of medicine are obliged to undergo the same course of study and examinations, and that, consequently, even homœopaths are of necessity educated men, possessed of a legal rank, and therefore to some extent respected. It now turns out that the intellect that was weak enough to thrive on the windy emanations of the seer of Meissen, was allied to a conscience which did not restrain its possessor from selecting patients of robust constitution for his hospital, and those, especially, who were recommended by their religious enthusiasm,—from coun-

terfeiting the diagnoses reported on the registers; and even from sending away those who could not recover, lest their deaths might swell that infinitesimal mortality which the interests of Hahnemannism, if not of truth, required to be as nearly as possible expressed by a blank in the hospital reports.

Dr. Bartlett states as one of the general motives to his inquiry, that confidence in medicine has *within the last few years*, been greatly lessened and impaired. We question the propriety of representing the prevalent skepticism as so nearly exceptional; it may, perhaps, be somewhat more widely spread, but it has not taken nearly so deep a hold of the educated classes as during the last century. During the great intellectual revolution which preceded that of physical force in France, the evil was of greater magnitude than now. Cabanis writing in 1788, says: "Not long ago it was the fashion at Paris to ridicule medicine, and treat its powers as chimerical . . . . The apes of literary men, vain of appearing like them above superstition, fancied themselves bound to retail in society the arguments of Montaigne, the jests of Molière, and the vagaries of Rousseau. Day after day these very persons who denied a Providence and a plan in creation, would argue that the cure of diseases was due entirely to provident and wise nature." To represent our art as now, for the first time, the subject of ridicule, or the object of hostile attacks, is discouraging indeed, for we are thereby led to exaggerate its defects and its danger. Physicians should know that from the time of Hippocrates downward, the same railing accusations have been brought against medical art, and have been repelled with the same shield which truth and nature still extend before their first-born child. We draw no argument for apathy from the certain ultimate failure of these assaults; they must be met, and the assailants shown that their shafts are spent against a panoply which is impenetrable over every vital part.

It should be recollected that at the present day medicine is by no means alone in exciting the hostility of the scorner and the skeptic. The number who attack its claims to confidence is far less than of those who proclaim the most uncompromising enmity to whatever is consecrated by time and human reverence, in religion, in art, and in political institutions, and who gravely, or at least boldly, maintain that the experience of thousands of years is to kick the beam when weighed against their crude and flimsy fancies. The general upturning of society which has converted every man into a legislator, has made him vainly imagine that the right implies the capacity to legislate; and at the same time, in conferring the legal power to express opinions upon all subjects whatever, has encouraged, if not created, the conviction, in the minds of too many men, that they are competent to judge of every question in science and art which they choose to arraign at their tribunal. When human affairs shall have regained their equilibrium, these impertinent pretenders will sink to their natural and base level, and it will once more be recognized as an eternal truth, that skill depends on knowledge and talent, and that they alone are competent to express opinions on a subject, who are fortified with the completest knowledge of its nature and relations. To offer proofs of the power of medicine to minds distorted in the way described, were altogether useless; they will go on misrepresenting its principles and practice until pain drives them to demand its assistance; just as they malign the laws until some invasion of their rights makes it convenient to seek the aid of justice; or as they sneer at religion until they find that there is one hour, at least, in life, when none but one of *its* ministers can thrust back the grim legion of regrets and fears which trample down their boasted courage. But there is a large class composed of persons hurried into doubt by the mischievous current of the age, who nevertheless do not yield to it entirely, and would gladly stay their descent upon any firm footing of truth; to the rescue of these persons, most valuable by their intelligence and honesty, it behoves us to come; and many such, we cannot doubt, will be won from their peril and disgrace by the calm and incontrovertible arguments of our author.

The title of Dr. Bartlett's essay, it will be perceived, is the same as that of Cabanis, but his mode of treating the subject is somewhat different. The French writer, in a noble strain of eloquence, annihilates, one after another, the objections of cavillers, great and small, against the certainty of medicine; the American author, taking up the examination of particular diseases and classes or groups of diseases, *demonstrates* by a calm and cautious process that science is as far ad-

vanced in a knowledge of them, as of any other branch of organic natural history; and that medical art exerts upon them a positive and powerful control, the degree and limits of which he accurately points out. We proceed to sketch an outline of his argument.

After showing that the completeness of anatomy and physiology is as satisfactory as it is in any of the natural sciences, and that it is constantly becoming more perfect, Dr. Bartlett proceeds to prove that our knowledge of the causes of disease, of the seat and phenomena of disease, and of the means of preventing, mitigating, and removing disease, is both real and very considerable. Taking pneumonia as an illustration, he passes in review the anatomical characters of this disease, showing that they are as constant and uniform, and as thoroughly known, as the facts of any physical science whatever; and that its rational and physical symptoms have been so carefully studied and accurately determined, that there is no lack of certainty and positiveness in the signs by which pneumonia is revealed to us during life. Further it is shown that the danger of pneumonia has been accurately measured, and proved to depend upon the age at which it occurs, the constitution and habits of the patient, certain combinations of symptoms, epidemic influences, &c. The probable mortality of a large group of cases occurring under determinate circumstances may be predicted, although the issue of any given case cannot be foretold with equal certainty; the probabilities, however, can be very closely calculated, because the several circumstances which influence and indicate the degree of danger have been very accurately ascertained. Such facts, our author very fairly argues, ought "to convince the most skeptical, and to satisfy the most incredulous, that the science of medicine, so far at least as pneumonia is concerned, in no degree deserves the charges of incompleteness and uncertainty which have been laid at its door."

"But the value of medical science depends wholly upon its connection with medical art;" it is a blessing and benefit to mankind in so far only as it is capable of preventing, curing, or mitigating disease, and its claim to possess these qualities is precisely that which inspires least confidence, and is most eagerly assailed. "Practical medicine, it is asserted, is altogether a hap-hazard affair of guess and conjecture, doing good, when this happens, more by accident than according to any constant and fixed principles, and as often doing harm as good." The fallacy and injustice of this opinion are fully proved by adducing the results of treatment in pneumonia. And here we beg to direct the attention of those who undervalue the numerical method of recording and investigating the phenomena of disease, to the fact that the argument of our author could never have acquired the force of a demonstration without the aid of this method. Cabanis and others had long ago insisted upon what indeed they knew to be true, that medicine was curative, and one plan of treatment more curative than another, but with those who were not eye-witnesses and competent judges of the causes and tendencies of disease, the vagueness of the proposition was fatal to its acceptance, nor could their assent to it be challenged until it was shown *how much* disease is indebted to treatment for its cure, and *how much* one method excels another. This our author has accomplished successfully by employing the materials furnished chiefly by Louis, Grisolle, and Dr. James Jackson.

Between 1821 and 1827 Louis studied the effect of bleeding upon pneumonia. "Of fifty cases terminating in health, twenty-three were bled, for the first time, within the first four days from the commencement of the disease, and the average duration of the disease in these cases was *seventeen* days; twenty-seven were bled for the first time between the fifth and ninth days inclusive, and the average duration of the disease in these cases was *twenty* days." Between 1830 and 1833 Louis made a similar comparison of results in twenty-five cases of pneumonia which got well, and found the average duration of those which were bled previous to the fifth day was *fifteen and a half* days, while those which were bled from the fifth to the fourteenth day inclusive, lasted *eighteen and a quarter* days on an average. Now unless it is alleged that bleeding in pneumonia is essentially mischievous, and that, therefore, these statements are merely comparisons of evils—no sound mind can resist the conclusion that depletion performed during the first four days of an attack of pneumonia shortens the disease by one-fourth or one-fifth.

But to make the proof complete, we are not compelled to *assume* that bleeding

is in any degree useful in pneumonia; that, also, can be demonstrated. In 1840, M. Grisolle treated eleven cases of this disease without using any active remedies, as they were sufficiently mild to justify him in so doing. "*The cases all terminated favourably*, but it is very important to remark that considering the limited extent of the inflammation, and the general mildness of their character, *the prominent symptoms of the disease persisted for an unusually long period of time.*" The pain in the side, for instance, did not wholly cease in any case until the seventh day, and in several it continued till the twentieth, twenty-fifth, and twenty-seventh, its mean duration being fifteen days." The general fever usually continued until the tenth day, the physical signs did not begin to diminish before the close of the second week, nor convalescence commence until about the twelfth day. In strong contrast with these cases, another group is furnished by M. Grisolle, consisting of thirteen, quite comparable with the last as regards age, constitution, and severity, and which were treated by depletion. In these the average duration of the pain in the side was only eight days, the general fever subsided at the end of the first week, and convalescence was fully established twenty-four hours later.

From all these facts no ingenuous reasoner can avoid concluding, first, that bleeding has a sanative influence on pneumonia, and secondly, that this influence is greatest the nearer to the commencement of the disease it is employed. Were there no other facts than these on record, the conclusion would remain equally absolute and equally valid. But not on these alone does the argument for the certainty of medicine rest. Others of a like character are at hand which so confirm the foregoing, and fortify the reasoning which they furnish, as to leave no hole through which even the most lithe and slippery skeptic can escape.

In 1836, Dr. J. Jackson, of Boston, published a detailed analysis of thirty-four cases of pneumonia, which shows the influence of bleeding upon the disease in the light already presented. "The average duration of the disease in those who were bled for the first time on or before the fourth day, was about *twelve* days, the average duration in those bled after the fourth day was *thirteen and a quarter;* and in five cases which were not bled, except locally in one, the average duration was *fourteen and a half* days, nearly. The latter cases were also the mildest." Results essentially the same as these, are afforded by an analysis of two groups, the one of fifty, and the other of one hundred and eighty-two, cases of pneumonia observed by M. Grisolle. Both were principally treated by depletion In the one the treatment began, on an average, between the third and the fourth day, and the mean period of convalescence was towards the tenth day; in a hundred and one cases of the other group in which depletion was principally used, the frequency of the pulse was more or less diminished after the first bleeding, and when this was performed previous to the fourth day the pulse fell to its natural standard by the eleventh; but when the operation was later performed, the pulse did not reach its natural standard until near the thirteenth day. Thus, we must conclude with Dr. Bartlett, "Louis has *demonstrated* that the circumstance of a few days' difference in the time of practising blood-letting makes not merely a trifling and unimportant, but a very considerable, difference in the duration of the disease, and a corresponding difference in the duration of its leading symptoms. Grisolle has demonstrated, in the same manner, that mild and slight cases of the disease, although they would recover without any active remedies, *have all their prominent symptoms very greatly mitigated in severity and shortened in duration by blood-letting*. . . . . I ought to add here that these positive results of Louis's and Grisolle's researches *stand entirely uncontradicted by any adequate counter testimony.*" There is still another and a very important deduction to be drawn from the facts which have now been presented, a deduction most gratifying to every faithful disciple of the healing art; it is "that the accredited and settled belief which has prevailed ever since the age of Hippocrates in the efficacy of blood-letting in the treatment of pneumonia, is not an error and a delusion: it has its foundation in nature and in truth . . . and is sustained by proof, by all the proof, and the only proof of which, in the nature of things, it is susceptible."

A similar and, if possible, more decisive argument in favour of the certainty of medicine is drawn by our author from Grisolle's records of the treatment of pneumonia by tartar emetic. We cannot follow him in his exposition of the palpable effects of this agent upon all the prominent symptoms of the disease, nor do much

beyond stating his conclusions. The first series of cases contains forty-four, generally grave, and in which no active remedy was made use of excepting antimony. Under its operation the pain was speedily relieved, and in some cases immediately removed; in twenty-seven out of the thirty-eight who recovered, the pulse fell to the extent of from ten to forty in a minute on the second day; with a single exception the physical signs remained stationary, or began to diminish from the first day of the administration of the medicine; the heat of the skin, the headache, the thirst, and the general restlessness, diminished or ceased with the same promptitude; the convalescence was remarkable for its rapidity, and the small impairment of the muscular strength; and the mean duration of the disease was only ten days. A second series consists of eighty grave cases in which antimonials had been preceded by local or general depletion. In the seventy patients who recovered, the treatment produced a rapid amelioration of the chief symptoms, and, in two-thirds of them, a very decided amendment took place during the first two days. In a third series of thirty cases which had been copiously bled, but still grew worse, the antimonial treatment was employed as a last resort. Half the cases were desperate at this period. "In nine cases where life was in imminent peril, there was so decided an amendment after the first, second, or third daily potion, that the patients might be looked upon as almost out of danger."

In analyzing the evidence which has now been summarily presented, Dr. Bartlett admits, or rather infers, first, that a certain number of cases of pneumonia recover by mere dietetic and regimenal treatment, not by chance, however, but only provided that they occur under certain determinate conditions of age, constitution, gravity, &c., conditions which medical science alone has revealed. In the second place, it cannot be denied that a certain, but smaller number, also, are inevitably fatal, fatal in the nature of things, and by their own constitution; the conditions of this result have also been discovered by medical science. Finally there is a third and largest class whose termination is contingent; it depends upon circumstances, among which is the treatment employed, for "*it is impossible to doubt that a remedy, or a method of treatment, possessing great and unequivocal control over a disease, almost invariably, when properly and promptly applied, greatly mitigating its severity, and abridging its duration, must often determine the issue of disease, and save the life of the patient.*" In the last class of cases which neither tend spontaneously to recovery, nor result inevitably in death, "*the issue depends upon the treatment of the disease*"

We agree with our author that they greatly err who suppose that a power, such as medical art is here shown to possess, "is so qualified and contingent as to be of little worth." It is, in fact, immense, since, in a large number of cases, it holds the issues of life and death. Besides, omitting for the present more than a passing allusion to its benign faculty of palliating what it cannot cure, the degree of certainty in medicine is infinitely precious, for it is the highest compatible with the nature of the case. To the individual patient it is beyond all price, for who but the physician can decide upon either the nature or the gravity of his disease? who else detect the signs of its passing from a mild to a grave form? or who else determine the appropriate method of treating it according to the new phases which in its progress it presents,—when to withhold the hand wisely, or when opportunely to interfere? It is clear that unless the physician can aid him, he is utterly without rational hope of assistance. If there is any human helper for him, the physician must surely be that helper.

There are still some who concede the claims which medicine has established, but, attracted by the novelty, the vigour, or the mysticism of some medical heresy, become its partisans and subjects, and assume that the evidence in its favour is, at the least, equal to that of legitimate art. With Dr. Bartlett, we demand their proofs; but the leaders of these delusive and dangerous systems have furnished none. "Yet until they exhibit some evidence of the efficacy of their remedies, such as scientific medicine has exhibited of *its*, until they can point us to investigations corresponding, at least in some feeble degree, to those which I have cited, it is difficult to see by what rules of logic, by what principles of philosophy, or by what code of morals, we can be asked to believe in their doctrines or to adopt their practice."

Dr. Bartlett devotes some space to considering a probable objection to the pre-

ceding argument,—that it relates to but one disease, and may be quite inapplicable to all or to many others, and he shows that what has been proved in regard to pneumonia, is true of many other diseases both in kind and degree, and of all but a restricted class, in kind if not in degree. He then proceeds to inquire what power medicine exerts over each of the several classes into which he divides diseases. In this discussion the nature and limits of medical art are clearly depicted in the modest but unchangeable colours of truth.

The first class consists of diseases of slight severity, such as common catarrh, simple diarrhœa, and simple muscular rheumatism, which indeed subside and disappear in a few days, under diet and rest alone, but which may often be cut short or greatly modified by proper medicinal treatment. These are cases familiar to all the world, and it seems strange that the evident efficacy of gentle medicines in them, should not have more generally suggested the probability that stronger agents might be proportionably curative in grave attacks of disease.

The second group comprises disorders which have a slighter tendency to cure, and yet rarely destroy life, as chorea, chlorosis, and functional dyspepsia. These are almost as positively under the control of medicine as the first class. Chlorosis is a most distressing and yet an eminently curable disease. Nature does little or nothing for it unaided by art, and to art the power of curing it is due. Dr. Bartlett well remarks that "if our science and art had done nothing else than to ascertain the effects of iron upon this malady, they would have given a gift to humanity that ought, at least, to shield them from the blind and bitter assaults of arrogant ignorance and wooden-headed stupidity."

In the third group are included diseases which do not ordinarily destroy life, but which are somewhat graver than most of the foregoing: such are *sporadic* dysentery, simple acute rheumatism, acute pleurisy, and tonsillitis. The first will usually get well without medicine, and may be arrested *in limine* by a full dose of opium; the others are much less readily or certainly controlled by treatment unless it is applied in their incipient stage, in which case they are occasionally cut short, or else materially mitigated.

A fourth (which indeed might have included the third) class comprises most of the more serious local inflammations, and all the general fevers, hooping-cough, cholera, erysipelas, delirium tremens, and so on. These are, for the most part, self-limited, and tend either to recovery or death, according to the circumstances which influence the severity of the disease. Pneumonia belongs to this class, and what has been said of the influence of remedies upon it, is to a greater or less degree, true of them. Of each disease, the three sorts of cases already described may be met with, and of each, therefore, there is a considerable number whose issue depends altogether upon the treatment. In this category we meet with brilliant and unequivocal therapeutic results; the antiphlogistic power of antimony in pneumonia; the narcotic, antispasmodic, and anodyne powers of opium; the effects of emetics in croup; of wine and other stimulants in petechial typhus; of quinine in periodical fevers, &c. The virtues of the last named agent it is equally impossible to call in question, and to over-praise; and scarcely less eminent and undeniable are the salutary effects of stimuli in the typhoid and exhausted states of numerous diseases. His experience must be very small who has not repeatedly witnessed the rescue from death, by a few draughts of wine or brandy, of a patient whose life has for hours hung trembling upon the confines of the grave. The power of medicine to save life is just as unequivocal here, as in arresting suffocation by the removal of a foreign body from the trachea.

A fifth group of diseases remains, comprising those which, in the present state of our knowledge, are incurable, or but little under the control of medicine: such are hydrophobia, diabetes, phthisis, tuberculous meningitis, epilepsy, traumatic tetanus, cancer, softening of the brain, granular nephritis, and various structural lesions of the heart and other viscera. Some of these appear to be absolutely irremediable, or at all events, the chances of cure in a given case, of hydrophobia, for instance, is probably not one in a million; and little more can be said of the favourable chances in diabetes, centric epilepsy, and tuberculous meningitis. Of the remainder, phthisis and softening of the brain, and cancer, occasionally get well, or, like valvular disease of the heart, remain stationary for many years; in either case, perhaps as often without as with special medicinal treatment, while

traumatic tetanus, a disease almost inevitably mortal, when abandoned to itself, has been repeatedly cured by the prompt and vigorous interposition of medical art. But while it must be confessed that, with the exceptions named, medicine is unable to *cure* the diseases of this group, she is not, therefore, useless; her ministry might as well be rejected for them, as the principles of honour, morality, or religion, because they only enable us to bear inevitable ills, under which, without their support, we should readily succumb. If medicine does nothing more for these diseases, says Dr. Bartlett, "it occasionally [we would say very frequently] defers their final period; and very generally it renders less rough and painful than it would otherwise be, the pathway to the tomb; it brings rest if not healing on its wings; it takes some drops of bitterness from the cup it cannot remove; it smooths the pillow, and spreads tenderly the couch of our last long sleep."

It should also be observed that medicine is not chargeable with the incurability of disease. As all the living must certainly die, it is clear that there is a limit to the progress of art which is fixed and impassable. Yet within this ultimate bound there is, as our author justly maintains, a constant and indefinite progression, and it is no less bad logic than faint philanthropy, to suppose that diseases which now defy our skill, must continue to do so. As well might it be alleged that syphilis, periodical fevers, traumatic tetanus, and croup, have destroyed as many victims since they were treated with mercury, bark, revulsion, and emetics, as before these agents were directed against them.

Dr. Bartlett next alludes to the striking efficacy of medicine in scrofula, some chronic affections of the skin, and above all syphilis, painting in true but vivid colours the train of hideous symptoms induced by this disease, which, when unopposed by art, "not only extends and multiplies itself, until every fibre and fluid of the body is involved in its foul contamination," but corrupts the fountain of life, and afflicts successive generations with an hereditary taint. The manifold benefits of medicine in obstetrics are summarily stated, with the unquestionable fact, that the life both of mother and child is frequently saved by the physician's timely interference. The usual facility and safety of labour have induced some persons to decry the value of obstetrical art, and even to deny the necessity of employing a physician in ordinary cases; but they probably do not know, or they forget, that it is only by superintending the progress of a case that the obstacles to its favourable issue can be early enough detected to ensure their removal; and they likewise forget that if there were none to study, and that habitually, the normal process of parturition, to determine how far nature is capable of repairing her own errors, and when, on the other hand, the aid of the physician is necessary,—there would be none to understand, and none, therefore, to teach that art on which the safety of so many lives depends.

The immunity of surgery from the detraction and skeptical cavils which assail the medical department of the healing art, is correctly enough attributed by our author to its mechanical processes, which appeal so directly and forcibly to the senses of the unskilled. But he shows that "there is no essential difference between the certainty of the surgical and the certainty of the medical art. The processes and operations of the surgeon, like the medicines of the physician, are his means for the removal or mitigation of disease, and, like the latter, their efficacy and success are always more or less contingent and uncertain." The idea contained in the last sentence seldom or never occurs to laymen, and not with sufficient frequency to medical practitioners. The surgeon is commonly judged by his *operation*, but the physician never gets credit for his operation, i. e. his prescription; the former is estimated according to the dexterity with which he applies his means, without regard to their appropriateness or their result; the latter is estimated according to the result alone, and no one inquires what skill, knowledge, or tact he may have shown by his method of treatment. The public form a notion of the comparative value of surgery and medicine, by contrasting the *agents* of the one with the *results* of the other! A comparison of nutritious food and strong men would be just about as rational, and lead to an equally correct idea of their respective merits.

In connection with obstetrics and surgery, allusion is made to the surprising control which medicine is capable of exerting over the throes of child-birth, and the

anguish inflicted by the knife, by means of anæsthetic agents, but the author does not consider their value in the former as being positively and definitively determined We cannot but think their *power* as far beyond dispute in the one case as in the other, and that its reality may with strict propriety be invoked to prove the beneficent influences of the art of medicine, but we are unable, in the present state of the subject, to decide upon the safety of these agents, and consequently, cannot look upon them as acquisitions to the materia medica, destined permanently to enjoy the same freedom and latitude of application as at present.

Not the least, but perhaps rather the greatest, of the triumphs of our art are shown in its power to prevent disease. Those who have not studied the subject, can form no adequate conception of the vast sacrifice of human life which has been almost put an end to by sanatory laws founded upon the data which medical science has furnished. To it are humanity and civilization indebted for staying the awful ravages of the plague and other communicable diseases, by the institution of quarantines; to it they owe the present salubrity of many districts, through the detection of the causes which formerly rendered them the dens of pestilence; to it they must give the glory of having stricken the chain from the limbs of the maniac, and of having converted the receptacles of the insane from howling pandemoniums into well ordered families, where smiling hope unlocks the door to health; to it they must ascribe the almost complete extinction of scurvy by land and sea; and to it that wonderful discovery which has reduced the annual number of victims to small-pox from thousands to tens, and which, if perseveringly applied, would exterminate the malady throughout the world, as it has already done in several localities. To naught, in fine, but medicine lending her aid to legislation. can it be attributed, that the proportion of deaths to births has been constantly declining, and that in some places, during the last century and a half, the average duration of life has more than doubled. If more than two thousand years ago, the Greek poet celebrated the art of physic as "the first and greatest" of the gifts of Prometheus to mankind, how much better reason have we to exalt its worth, which, since the time of Æschylus, has stayed so many plagues, has conquered so many maladies, and has been the inseparable handmaid of civilization, in assuaging the pains, and prolonging the life of man!

From the mingled analysis, citation, and suggested comment, which has now been presented, the reader may, to some extent, judge of the skill and feeling with which our author has, to use his own words, "woven a garland for the august and god-like forehead of the genius of our art." He has done a good work, a work for which he deserves the respect and gratitude of the medical profession, and of all sound-hearted men, whatever their pursuits, who fight under the banner of truth. and are the sworn foes of all imposture, the determined opponents of all error. Not to the snarling pack of cavillers who must needs vent their spite in some direction, and would, if driven from their hold on this, fly at some perhaps more sacred object—not among them would we cast this well-fleshed bone of contention;—they are worthy of no such meal. But we would willingly lay it before all those who will search for its errors only to discover if it is indeed the offspring of truth; for we are persuaded that the reasoning will bear a rigid scrutiny, and that it only errs by claiming less for medicine than is its legal due. To all who sincerely doubt the certainty of medicine, and to all who cannot state the grounds of their faith in its efficacy, we commend this argument as convincing and satisfactory; and, finally, we hope that it will be read by every member of the medical profession who desires to learn more fully, or to hear rehearsed anew, the virtues and charms of the mistress whom he loves and serves. With an eloquent summary of these, from which we extract the following passage, our author concludes his voluntary task.

"There is no process which can reckon up the amount of good which the science and art of medicine have conferred upon the human race; there is no moral calculus that can grasp and comprehend the sum of their beneficent operations. Ever since the first dawn of civilization and learning, through

'The dark backward, and abysm of time,'

they have been the true and constant friends of the suffering sons and daughters of men. Through their ministers and disciples, they have cheered the despond-

ing; they have lightened the load of human sorrow; they have dispelled or diminished the gloom of the sick chamber; they have plucked from the pillow of pain its thorns, and made the hard couch soft with the poppies of delicious rest; they have let in the light of joy upon dark and desolate dwellings; they have rekindled the lamp of hope in the bosom of despair; they have called back the radiance of the lustreless eye and the bloom of the fading cheek; they have sent new vigour through the failing limbs; and, finally, when exhausted in all their other resources, and baffled in their skill—handmaids of philosophy and religion—they have blunted the arrows of death, and rendered less rugged and precipitous the inevitable pathway to the tomb. In the circle of human duties, I do not know of any, short of heroic and perilous daring, or religious martyrdom and self-sacrifice, higher and nobler, than those of the physician. His daily round of labour is crowded with beneficence, and his nightly sleep is broken, that others may have better rest. His whole life is a blessed ministry of consolation and hope."

A. S.

ART. XVII.—*An Analytical Compendium of the Various Branches of Medical Science, for the Use and Examination of Students.* By JOHN NEILL, M. D., Demonstrator of Anatomy in the University of Pennsylvania, Lecturer on Anatomy in the Medical Institutes of Philadelphia, etc., and FRANCIS GURNEY SMITH, M. D., Lecturer on Physiology in the Philada. Assoc. for Med. Instruc., Fellow of the College of Physicians, etc. Philadelphia: Lea and Blanchard, 1848. 12mo. pp. 908.

THE present compendium consists of a series of "Hand Books," or manuals, on Anatomy, Physiology, Surgery, Obstetrics, Materia Medica and Therapeutics, Chemistry, and the Practice of Medicine. It is not offered as a substitute for the ordinary text-books, or to lessen the necessity of regular attendance on lectures or close office study, but solely to assist the student of medicine in the prosecution of his labours, and the practitioner, in refreshing his recollection of former studies.

The authors disclaim all pretension to originality. "As an *Analytical Compendium*, its highest claim is to be considered a faithful digest of recorded facts and opinions. They ask for it nothing more, and, to obtain this, they have freely used the standard text-books of the day, gleaning from them whatever seemed useful to their purposes, even in some instances to the use of language as well as ideas, and to them they own their indebtedness."

The several manuals embraced in the Compendium of Drs Neill and Smith, it must be admitted, have been prepared with much skill and judgment, and present a correct outline of the several branches of medical science of which they respectively treat. Having already, on more than one occasion, expressed our objections to works of the character of the one before us, however unexceptionable they may be in point of execution, it is scarcely necessary to urge them again here. It is true that a good analytical compendium of the various branches of medical science will be found, on many occasions, a *convenient* table book to both student and practitioner; it may be useful to the first, to test the accuracy of the knowledge he has acquired, and to the second, to refresh his recollection in regard to any particular fact or opinion upon which it may have proved faithless. But even in this point of view we cannot admit them to be absolutely necessary, and a great objection to manuals, compendiums and digests arises, not so much from their legitimate use as from their great liability to abuse. They have, we fear, too often encouraged the indolent student to turn aside from the true sources of that knowledge which is essential to fit him for the faithful performance of his duties as a physician, and to dissuade him from that system and diligence of application in the acquisition of professional information which make, as it were, his own, by imprinting clearly and strongly upon his mind, the very digest of recorded facts and opinions which the manual presents to him, without the expenditure on his part of either time or labour; but, at the same time, divested of any history of the steps by which these facts and opinions have been arrived at, of the basis upon which they rest, and in short of all collateral matter calculated to give to them their true value and relative importance. Consequently the study

of manuals is apt to lead to a superficial instead of a full knowledge of the subjects of which they treat; to an acquaintance with the mere outlines of science rather than with the science itself.

But, notwithstanding the valid objections against manuals and compends, resulting from the improper use made of them, it is very certain that works of this description will be published and resorted to by the student. A kind of necessity for them has been created in the minds of the latter, which, from the facility of gratifying it, becomes very difficult to eradicate or counteract. Consequently as we cannot keep these books out of the hands of the student, it is all important that their preparation should be confided to such only as are qualified to render them faithful and true guides to the recorded facts and opinions in reference to the subjects of which they treat. It is in this point of view that the analytical compendium of Drs. Neill and Smith can with great confidence be recommended. As a clear and accurate outline of anatomy, physiology, surgery, obstetrics, materia medica and therapeutics, chemistry and the practice of medicine, it may be profitably consulted. It presents a very fair exposition of acknowledged facts and generally received opinions. The arrangement adopted will be found at once concise and clear; while its mechanical execution, its copious pictorial illustrations in the branches of anatomy, physiology, surgery, obstetrics, materia medica and chemistry, together with its neat, cheap and convenient form, will recommend it to all such students and practitioners who may desire to avail themselves of what cannot fail to prove, if kept within its proper sphere, a convenient and useful remembrancer.

D. F. C.

ART. XVIII.—*A Practical Treatise on the Diseases of Children.* By J. FORSYTH MEIGS, M D., Lecturer on the Diseases of Children in the Philadelphia Medical Association: Fellow of the College of Physicians of Philadelphia. 12mo. pp. 575. Philadelphia: Lindsay & Blakiston, 1848.

THIS work, which forms the third volume of the "Series of Manuals" now in course of publication under the title of "*The Medical Practitioner's and Student's Library*," will be found, by the student and junior practitioner, an excellent and faithful guide in their study of the pathology and therapeutics of the more prominent of the morbid affections incident to the period of childhood.

The author has availed himself of the labours of the more authoritative of those who have recently directed their attention to the investigation of this class of diseases, while he has not neglected the results of his own observation, which have, evidently, been made with diligence and accuracy. From the materials thus derived, he has prepared a correct and useful manual that will greatly facilitate the student's acquisition of the more important facts relative to the causes, character, symptomatology and management of the diseases of which it treats; while it will not be found beneath the notice of the practitioner.

Dr. Meigs' descriptions of disease are clear and concise, his pathological views are, in the main, sound, and his practical directions plain, simple, and judicious. His work is far from being a mere compilation from the best authorities, or a simple array of the various and often discordant views of the leading writers on the diseases of children. He has, with judgment, selected his materials, testing them in most instances by the results of his own experience, and endeavouring throughout, to present an exact exposition of the present state of our knowledge on the several forms of disease of which he treats.

It is not our intention to enter into a critical examination of the several chapters of Dr. Meigs' volume. This would be unnecessary, excepting to enable us to express our general assent to the views advanced by him in reference to the subject of each. The few particulars in which we differ from the author being of minor importance, we prefer to pass them over without comment.

In regard to one disease, however, the author has fallen, we believe, into an error, and though this is not calculated to lead to any very serious malpractice, still, as correctness, in a matter relative to the pathology of an important malady, is always desirable, we must be allowed to say a word or two in relation to it.

The error to which we allude occurs in his account of gangrene of the mouth of children. If we understand correctly our author, he supposes that the only form of gangrena oris, properly speaking, is that which commences upon the inside of the cheek, and that the gangrene which commences in the gums, is invariably the result of ulcero-membranous stomatitis; which latter he declares to be the disease described by Dr. B. H. Coates, with the exception of a few cases, as having prevailed at the Children's Asylum in Philadelphia.

There are, we are convinced, several very distinct forms of gangrene of the mouth, and it very frequently occurs in the gums entirely independent of ulcero-membranous stomatitis. Our connection, for many years, with the almshouse infirmary, as out-door physician, gave us an opportunity of seeing a great number of cases of gangrene of the mouth in the children of the poor, inhabiting unhealthy localities in the lower districts. In the greater number of instances the gangrene occurred without the slightest appearance of a pseudo-membranous deposit. The gums became of a dark red or purplish colour, swollen and spongy; there was a profuse discharge of fetid saliva, occasionally mixed with dark-coloured blood. The gangrene was usually, but not invariably, preceded by a number of ash-coloured vesicles, which rapidly increasing in size, coalesced, and finally ruptured, exposing the denuded gum, black and in a state of gangrene. A similar form of gangrena oris is described by Richter. In other cases, the first indication of the disease was some degree of swelling and redness of the gums, succeeded by a separation and slight loss of substance at their extreme edge in contact with the necks of the teeth; this part subsequently became black, and by a succession of sloughs the entire soft parts covering the dental arches were destroyed, leaving the bony structure beneath bare and in a state of necrosis.

This latter form corresponds with the disease described by Dr. Coates in the paper quoted by Dr. Meigs; and from the description given by Dr. C., we should not be led to infer that in any of his cases the gangrene was the result of ulcero-membranous stomatitis. No mention whatever is made of any pseudo-membranous plastic deposit, and from our knowledge of Dr. Coates' habits of cautious and accurate observation, and his faithfulness in delineating the phenomena of disease, we have no reason to suppose so important a fact would have escaped his notice, or if noticed that he would have neglected to record it.

The work of Dr. Meigs has so much of excellence to counterbalance the mistake we have just noticed, that we can, without hesitation, recommend it to our readers as one of the best manuals of the diseases of children in the English language. We regret, however, that the plan of the work did not permit of its embracing all of the maladies incident to the periods of infancy and childhood.

D. F. C.

ART. XIX.—*Reports, for* 1847, *of Institutions for the Insane in the United States*, viz:—

1st. *Of the State Insane Hospital at Augusta, Maine.* By JAMES BATES, M. D

2d. *Of the New Hampshire Asylum for the Insane, Concord.* By ANDREW McFARLAND, M. D.

3d. *Of the State Lunatic Hospital, Worcester, Mass.* By GEORGE CHANDLER, M. D.

4th. *Of the State Lunatic Asylum, Utica, New York.* By A. BRIGHAM, M. D.

5th. *Of the New York City Pauper Lunatic Asylum on Blackwell's Island.* By W. H. RANNEY, M. D., *Resident Physician.*

6th. *Of the same.* By JAMES MACDONALD, M. D., A. V. WILLIAMS, M. D., *and* BENJAMIN OGDEN, M. D., *Visiting Physicians.*

7th. *Of the Bloomingdale Asylum for the Insane at Bloomingdale, New York.* By PLINY EARLE, M. D.

8th. *Of the Pennsylvania Hospital for the Insane at Blockley, near Philadelphia.* By THOMAS S. KIRKBRIDE, M. D.

9th. *Of the Ohio Lunatic Asylum at Columbus.* By WILLIAM M. AWL, M. D.

10th. *Of the Lunatic Asylum of Tennessee, at Nashville.* By JOHN S. McNAIRY, M. D.

11th. *Of the Lunatic Asylum of the State of Georgia.* By THOMAS F. GREEN, M. D.

12th. *Of the Chicago Retreat for the Insane.* By EDWARD MEAD, M. D.

1st. In consequence of an alteration of the time for the termination of the fiscal

year of the Maine Hospital, the present report embraces a period of sixteen months. The number of patients admitted is more numerous than at any former term of equal duration, and some applications have been rejected for want of room. A large addition to the building is in progress.

	Male.	Female.	Total.
Patients in hospital, Dec. 1st 1846 - -	59	41	100
Admitted during the 16 months - -	93	64	157
Whole number - - - -	152	105	257
Discharged - - - - -	73	57	130
Remaining, March 31st, 1848 - -	80	47	127
Of the patients discharged, there were cured -	38	30	68
" " " " died -	9	5	14

It appears that heretofore, at this institution as at nearly all others, the number of cures has been essentially diminished by the injudicious and premature removal of patients. "I have now," says Dr. B., "to congratulate the friends of the Insane and of this Institution on the passage of a law, by our judicious legislators, which went into operation on the second day of September last, placing the whole subject in the hands of authorized persons, both in and out of the hospital; so that in future, *feeling*, unaided by judgment and discretion, is not to limit the term of residence here. From the opening of the hospital until the provisions of that law were operative, persons brought their friends when they thought proper, and claimed a right to remove them at pleasure. The consequence was most disastrous to the welfare of those prematurely removed, and to the reputation of the Institution.

"In looking over the reports, it is truly painful to observe the great number who were thus taken away, when in an improving and curable state, either to relapse into a worse and perhaps incurable condition, or to be returned here with the malady greatly aggravated, if not beyond remedy. Sometimes this mischief has resulted from the morbid sensibility of friends, but more frequently from the parsimonious meanness of individuals and corporations."

The following extract is made in the hope that it may be the means of awakening attention to the subject in other states. The laws to which it refers were drawn up by Dr. Bates, and are a model for other communities.

"It is believed that no state in the Union is in advance of Maine, in the humane provision of its enactments in relation to the insane. No longer can jails and dungeons, not even the state prison itself, be inhabited by those deprived of reason; and nothing but the most brutal neglect of humanity and law, by a whole neighbourhood, can consign such unfortunates to hovels, cages, or chains. Any relative or justice of the peace may prevent it."

	Male.	Female.	Total.
Whole number admitted from 14th Oct. 1840	414	331	745
do. do. discharged cured - -			285
do. do. died - - - -			45

The following remarks upon the subject of recent and chronic cases deserve a perusal by persons interested in the treatment of insanity.

"Few things are more various, in the numerous reports which come to hand from Institutions similar to our own, than what are termed *recent* cases. In general, of late years, cases admitted within one year of the attack are denominated *recent*. This would be very well and easily understood, if such cases were continued to be *recent* cases, in the reports, until discharged. But such is not the fact. In one report, which contained a table purporting to give the admissions and discharges of recent and old cases, it was seen that the recovery, discharges, and deaths, together with recent cases remaining, were much less than stated in the admission. Further examination showed, that at the end of each year those remaining in hospital which had become of more than one year's standing, were turned over to the department of old cases.

"By such a course, and rejecting deaths, paralytic and epileptic cases, and perhaps some others, from the aggregate, the cures of recent cases are very conveniently carried up to 90 per cent.

"It is probable, in some instances, this rejection and pruning away of exceptionable cases, might be carried so far, that 100 per cent. of recoveries, in recent cases, could be reported, and received with wondrous admiration by that portion of the public who are better pleased with marvellous fiction than with homely truth."

Notwithstanding our liberal extracts from this excellent report, we cannot well refrain from quoting the following remarks upon the moral treatment of the insane.

"As in a family, so in an Institution for the Insane, the head must be master of the inmates; but this control cannot be acquired over every individual by the same means.

"Kindness is undoubtedly to be the governing principle throughout. But here, as in all governments, an inefficient, tolerating course, may prove absolute cruelty.

"It is true of mental, as of any other malady, the remedies required are often distasteful and offensive, and to neglect their application on that account would be a most flagrant dereliction of duty.

"Repression and coercion may be as necessary to restrain the waywardness and unbridled violence of a maniac, as a surgical operation to preserve the life or limb of one requiring such treatment. There is no less proof of kindness in the one case than in the other.

"To connive at, or acquiesce in delusions, would be to confirm them, and would often diminish the chance of recovery. To attempt to dissipate them by arguments would be as objectionable; but the use of such physical and moral remedies as serve to divert or even distract the mind from its false pre-occupation, may do much good, though such means may be more or less painful to the individual, and decidedly opposed to his wishes."

2d. The number of patients in the New Hampshire Asylum for the Insane, May 31st, 1847, was as follows:—

	Male.	Female.	Total.
Whole number of patients - - -	52	48	100
Admitted during the year - - -	51	41	92
Whole number during the year - -	103	89	192
Discharged and died - - - -	46	37	83
Remaining June 1st, 1848 - - -	57	52	109
Of the patients discharged, there were cured -	19	10	29
" " " " died -	4	4	8
Whole number of admissions since asylum opened			546
do. do. recovered - - -			179
do. do. died - - -			31

The institution is in a flourishing condition, and all its apartments devoted to patients, are now constantly occupied.

A considerable portion of this report is devoted to arguments in favour of keeping the chronic insane, as a general rule, in Asylums particularly intended for the treatment of mental diseases, rather than permitting them to be returned to poor-houses and prisons.

In reference to that clause in the law of the state which empowers the probate judges to commit to the Asylum any Insane person "who is in such a condition as to render it dangerous that he should be at large," Dr. McFarland very properly remarks that "experience of the most painful kind has repeatedly taught the lesson, that it is by no means those whose mental manifestations exhibit the most insanity who are most dangerous to be at large." No statute authorizing the confinement of the insane, should be expressed in such terms, since, if it be literally construed, a very large proportion of persons suffering under mental disease would not come within its scope.

The following remark occurs in that portion of the report devoted to the discussion of the value of statistics. "As tables made up from the records of Institutions for the Insane, are of use only as data from which may be deduced the relative value of different varieties of treatment, they lose much of their importance in view of the difficulties that environ all attempts at keeping such records with even tolerable precision."

We quote this sentence simply for the purpose of objecting to the assumption with which it commences. The statistics of Institutions are, as a general rule, false data upon which to found an opinion of the relative value of treatment. There is such a diversity in the regulations for the admission and discharge at different institutions, and, to a considerable extent, in the character of the cases received, that one would fall into a gross error were he to attempt to judge of the treatment of the patients by a comparison of statistics.

3d. At the Massachusetts State Lunatic Hospital, the number of patients, on the 1st of Dec., 1846, was as follows:—

	Male.	Female.	Total.
Whole number of patients	200	167	367
Admitted in the course of the year	105	135	240
Whole number during the year	306	301	607
Discharged	116	97	213
Remaining, Nov. 30th, 1847	207	187	394
Of the patients discharged, there were cured	48	55	103
" " " " died	18	12	30

Causes of Death.—Marasmus 3, apoplexy and palsy 5, epilepsy 5, consumption 4, disease of heart 1, suicide 2, lung-fever 1, dysenteric fever 1, diarrhœa 3, gastric fever 2, exhaustion 2, convulsions 1.

	Male.	Female.	Total.
Patients admitted from 1833 to 1847, inclusive	1433	1390	2823
Discharged recovered	621	674	1295
Died			243

This Institution is always "full," and we were about to say, always being enlarged. "At no time in the year," says the report, "have we had a spare room. Twenty-six, on an average, more than our whole number of rooms, have resided with us throughout the year."

The system of moral treatment is, as it always has been, liberal and effective. Besides other means, a school for the patients was in operation in the winter. "Enough was done," says Dr. C., "to satisfy us that a school for the Insane was practicable, and might be made useful to many. Some information could be obtained, and the minds of those who could be made interested in the business, would be kept active, and drawn off from their delusions for the time."

This report contains an interesting table, showing the average duration of life, after becoming insane, of 219 patients, who have died in the hospital. The average duration, in 121 males, was 4 years, 10 months, 2 days; in 98 females, 4 years, 3 months, 12 days; and in both sexes, 4 years, 7 months, and 5 days.

It is comparatively but a few years since it was thought, that about one in each thousand of the population was a fair estimate of the proportion of persons insane and idiotic. Dr. C., in this report, says, in reference to Massachusetts,—"it is safe to predict, that an accurate census of the insane and idiots who are incapable of taking care of themselves, would show that there are as many as four to every thousand of the inhabitants of the commonwealth. And such, too, I believe to be the melancholy fact, in regard to their proportion in the neighbouring states."

4th. At the New York State Lunatic Asylum, the number of patients on the 30th of Nov., 1846, was as follows:—

	Male.	Female.	Total.
Whole number of patients	187	187	374
Admitted during the year	219	209	428
Whole number	406	396	802
Discharged and died	175	155	330
Remaining Nov. 30th, 1847	231	241	472
Of the patients discharged, there were cured	102	85	187
" " " " died	27	21	48

"Seven died of consumption, 7 of general paralysis, 6 of epilepsy, 8 of diarrhœa

and dysentery, five—soon after admission—from exhaustion, following great excitement and the fatigue of the journey, 4 from apoplexy, 4 from marasmus, 2 by suicide, 2 by inflammation of the brain—a few days after reception, 1 by effusion on the brain, 1 by pneumonia, after profuse menorrhagia, and 1 from disease of the heart."

Whole number of patients, from Jan'y 16th, 1843, to Dec. 1, 1847	1,609
Discharged, including deaths	1,137
Recovered	640
Died	114

Dr. Brigham refers as follows to a peculiar form of mental disease which, to use a homely but expressive phrase, has *bothered* other physicians as well as himself. It would, perhaps, be better for the patients attacked with this disorder, that they should not be removed from home; yet it is very difficult, unless one has had much experience, to discriminate between this and ordinary insanity.

"There is a kind of inflammation of the membranes of the brain, accompanied by derangement of mind, that is, we think, often mistaken for mere insanity. It usually assumes the form of maniacal excitement, sometimes preceded by a short period of melancholy, or depression of spirits. Patients affected by it, are remarkable for the rapidity of their movements, incessant talking, and sleeplessness. The pulse is frequent, but not hard or full: the tongue is coated, and the eyes often slightly suffused. Such cases often prove fatal very suddenly: and after death the pia mater and the arachnoid membrane will be found considerably more vascular than natural, and occasionally, some effusion of serum will be observed. Death does not seem to result from inflammation,—but from the exhaustion and sinking of the vital powers, after long-continued excitement, agitation and sleeplessness. Bleeding in this disease is, we believe, always injurious, and probably no method of treatment will frequently be successful; but when it attacks, as it most frequently does, females who are delicate and feeble, or men whose constitutions are impaired by intemperance,—stimulants, with seclusion and quiet, will sometimes effect a cure."

With the subjoined observations upon blood-letting in insanity, as that disease is presented to the officers of public institutions, it is believed nearly, if not quite, all of those who have the medical direction of Asylums, will fully coincide.

"The treatment of insanity by bleeding, though strongly recommended by Dr. Rush, and some others, we believe to be generally improper, and frequently very injurious. Sometimes, as we have stated, it appears to produce a fatal result, and we are confident that it not unfrequently renders cases incurable. Some physicians appear to consider great maniacal excitement, vociferation and violence, as sufficient evidence of inflammation to have recourse to general bleeding; but, as we have said, this is usually a sad mistake. So frequently have we seen bad results from bleeding copiously in the commencement of insanity, that we are strongly inclined to limit the resort to it, to those cases that occur suddenly, in robust persons, with a hard or a full, strong pulse, redness of the eyes and face, and other well-marked symptoms of inflammation of the brain, or its membranes. *No regard whatever should be paid to the mere excitement and violence of the patient, as furnishing indications for bleeding.*

"That bleeding is sometimes serviceable and necessary at the commencement of insanity, we do not doubt; but of this we are confident, if a patient actually requires bleeding, in consequence of the inflammation of the brain or its membranes, then he requires to be kept still, and will be greatly injured by travelling. * * * * When, however, sufficient time has elapsed, after a person becomes deranged, to render it evident that the case is one of insanity, unaccompanied by acute disease, then, we think, as a general rule, the sooner he is removed from his home to an asylum, the better."

The system of moral treatment at the Utica Asylum, is very elaborate, the forms of occupation various, and the other means and facilities as diversified as, perhaps, at any institution in the country. Within the last year or two, theatrical exhibitions have been introduced. "These performances," says the report, "are held in one of our long halls, which, being very wide and high, with rooms each side, is admirably adapted for such exhibitions. A handsome drop-curtain has been

painted by a patient, representing a view of the Coliseum at Rome, with gladiators in front, and in contrast, a view of our Asylum, with ladies dancing and promenading near it. A large number of patients, with resident officers, attendants and assistants, have attended these exhibitions, and occasionally, the managers of the asylum with their families, and a few ladies and gentlemen from Utica, have been present, and been much interested and surprised at the good order and ability exhibited.

"No evils whatever have resulted from our schools, exhibitions and the other mental exercises which we have mentioned; but, on the contrary, much good has been the consequence. They have interested and benefited us all—the officers, assistants and attendants, as well as the patients themselves; and served to make a residence here more pleasant and useful to us than it otherwise would be. It has ever been our policy to make the asylum the *home*, and the chief place of interest for all in our employ; and among our large number of patients are always many individuals of education and ability, who, when convalescent, are very willing to unite in contributing to the improvement and enjoyment of all."

Extensive additions to the buildings of this asylum have been completed during the past year, and the apartments thus supplied are rapidly becoming occupied.

5th. Agreeably to an ordinance of the Common Council of the city of New York, passed in the autumn of 1847, the Lunatic Asylum on Blackwell's Island has been relieved from its official dependence upon the Almshouse, and made, so far as the management of its patients is concerned, an independent institution.

According to the report before us, the number of patients on the 1st of January, 1847, was as follows:—

	Male.	Female.	Total.
Whole number of patients - - -	171	212	383
Admitted during the year - - -	201	195	396
Whole number during the year - -	372	407	779
Discharged and died - - - -	212	203	415
Remaining January 1st, 1848 - -	160	204	364
Of those discharged there recovered - -			194
" " " died - -	79	74	153

Of the cures, 47 were cases of delirium tremens.

Causes of Death.—"General debility 25, dysenteric diarrhœa 33, chronic diarrhœa 26, apoplexy 2, congestio cerebri 12, epilepsy 10, dry gangrene 1, paralysis 4, chronic bronchitis 1, erysipelas 1, phthisis 25, intussusceptio 1, organic disease of heart 2, ramollissement of the brain 1, feb. typhoid 6, old age 3."

"The number of deaths," says the report, "has been large. Various causes have been operating to swell the table of mortality. This Institution, connected, as it is, with the Almshouse Department, becomes the receptacle of many incurable patients, who are sent here to remain until death puts an end to their sufferings.

"If the incurable insane alone were sent here, the cause of complaint would not be so great; but there are many cases of febrile delirium, resulting from other diseases, which are sent to the asylum expressly to die. Few diseases terminate in death without affecting the mental faculties, and to the casual observer may be mistaken for mania. A little attention to the previous history of the case is necessary to distinguish the one from the other. 'Mania exists alone and independent of any other disorder, while delirium is only an unessential symptom of some other disease.' Some cases of febrile delirium have died within a few hours, and many during the first week after admission. During the past summer, there have been received five cases of ship fever, in the early stage of the disease, properly attested as being genuine insanity, showing conclusively the careless manner in which examinations for commitment are occasionally made.

"Another cause for the large number of deaths has been on account of the prevalence of ship fever."

"During the year 1846, but seven patients were transferred from Bellevue to this Asylum, while during the past year, fifty-nine have been received from that place, and the almshouse on Blackwell's Island. Many of these patients were

and dysentery, five—soon after admission—from exhaustion, following great excitement and the fatigue of the journey, 4 from apoplexy, 4 from marasmus, 2 by suicide, 2 by inflammation of the brain—a few days after reception, 1 by effusion on the brain, 1 by pneumonia, after profuse menorrhagia, and 1 from disease of the heart."

Whole number of patients, from Jan'y 16th, 1843, to Dec. 1, 1847	1,609
Discharged, including deaths - - - - -	1,137
Recovered - - - - - - - - -	640
Died - - - - - - - - -	114

Dr. Brigham refers as follows to a peculiar form of mental disease which, to use a homely but expressive phrase, has *bothered* other physicians as well as himself. It would, perhaps, be better for the patients attacked with this disorder, that they should not be removed from home; yet it is very difficult, unless one has had much experience, to discriminate between this and ordinary insanity.

"There is a kind of inflammation of the membranes of the brain, accompanied by derangement of mind, that is, we think, often mistaken for mere insanity. It usually assumes the form of maniacal excitement, sometimes preceded by a short period of melancholy, or depression of spirits. Patients affected by it, are remarkable for the rapidity of their movements, incessant talking, and sleeplessness. The pulse is frequent, but not hard or full: the tongue is coated, and the eyes often slightly suffused. Such cases often prove fatal very suddenly: and after death the pia mater and the arachnoid membrane will be found considerably more vascular than natural, and occasionally, some effusion of serum will be observed. Death does not seem to result from inflammation,—but from the exhaustion and sinking of the vital powers, after long-continued excitement, agitation and sleeplessness. Bleeding in this disease is, we believe, always injurious, and probably no method of treatment will frequently be successful; but when it attacks, as it most frequently does, females who are delicate and feeble, or men whose constitutions are impaired by intemperance,—stimulants, with seclusion and quiet, will sometimes effect a cure."

With the subjoined observations upon blood-letting in insanity, as that disease is presented to the officers of public institutions, it is believed nearly, if not quite, all of those who have the medical direction of Asylums, will fully coincide.

"The treatment of insanity by bleeding, though strongly recommended by Dr. Rush, and some others, we believe to be generally improper, and frequently very injurious. Sometimes, as we have stated, it appears to produce a fatal result, and we are confident that it not unfrequently renders cases incurable. Some physicians appear to consider great maniacal excitement, vociferation and violence, as sufficient evidence of inflammation to have recourse to general bleeding; but, as we have said, this is usually a sad mistake. So frequently have we seen bad results from bleeding copiously in the commencement of insanity, that we are strongly inclined to limit the resort to it, to those cases that occur suddenly, in robust persons, with a hard or a full, strong pulse, redness of the eyes and face, and other well-marked symptoms of inflammation of the brain, or its membranes. *No regard whatever should be paid to the mere excitement and violence of the patient, as furnishing indications for bleeding.*

"That bleeding is sometimes serviceable and necessary at the commencement of insanity, we do not doubt; but of this we are confident, if a patient actually requires bleeding, in consequence of the inflammation of the brain or its membranes, then he requires to be kept still, and will be greatly injured by travelling. * * * * When, however, sufficient time has elapsed, after a person becomes deranged, to render it evident that the case is one of insanity, unaccompanied by acute disease, then, we think, as a general rule, the sooner he is removed from his home to an asylum, the better."

The system of moral treatment at the Utica Asylum, is very elaborate, the forms of occupation various, and the other means and facilities as diversified as, perhaps, at any institution in the country. Within the last year or two, theatrical exhibitions have been introduced. "These performances," says the report, "are held in one of our long halls, which, being very wide and high, with rooms each side, is admirably adapted for such exhibitions. A handsome drop-curtain has been

painted by a patient, representing a view of the Coliseum at Rome, with gladiators in front, and in contrast, a view of our Asylum, with ladies dancing and promenading near it. A large number of patients, with resident officers, attendants and assistants, have attended these exhibitions, and occasionally, the managers of the asylum with their families, and a few ladies and gentlemen from Utica, have been present, and been much interested and surprised at the good order and ability exhibited.

"No evils whatever have resulted from our schools, exhibitions and the other mental exercises which we have mentioned; but, on the contrary, much good has been the consequence. They have interested and benefited us all—the officers, assistants and attendants, as well as the patients themselves; and served to make a residence here more pleasant and useful to us than it otherwise would be. It has ever been our policy to make the asylum the *home*, and the chief place of interest for all in our employ; and among our large number of patients are always many individuals of education and ability, who, when convalescent, are very willing to unite in contributing to the improvement and enjoyment of all."

Extensive additions to the buildings of this asylum have been completed during the past year, and the apartments thus supplied are rapidly becoming occupied.

5th. Agreeably to an ordinance of the Common Council of the city of New York, passed in the autumn of 1847, the Lunatic Asylum on Blackwell's Island has been relieved from its official dependence upon the Almshouse, and made, so far as the management of its patients is concerned, an independent institution.

According to the report before us, the number of patients on the 1st of January, 1847, was as follows:—

	Male.	Female.	Total.
Whole number of patients - - -	171	212	383
Admitted during the year - - -	201	195	396
Whole number during the year - -	372	407	779
Discharged and died - - - -	212	203	415
Remaining January 1st, 1848 - -	160	204	364
Of those discharged there recovered - -			194
" " " died - -	79	74	153

Of the cures, 47 were cases of delirium tremens.

Causes of Death.—"General debility 25, dysenteric diarrhœa 33, chronic diarrhœa 26, apoplexy 2, congestio cerebri 12, epilepsy 10, dry gangrene 1, paralysis 4, chronic bronchitis 1, erysipelas 1, phthisis 25, intussusceptio 1, organic disease of heart 2, ramollissement of the brain 1, feb. typhoid 6, old age 3."

"The number of deaths," says the report, "has been large. Various causes have been operating to swell the table of mortality. This Institution, connected, as it is, with the Almshouse Department, becomes the receptacle of many incurable patients, who are sent here to remain until death puts an end to their sufferings.

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suffering from the effects of ship fever, which had left them in a state of extreme debility, complicated with diarrhœa, and a large proportion of the number died.

"The principal acute diseases have been dysenteric diarrhœa, and feb. typhoid (ship fever).

"Of the last-mentioned disease there have been thirty-four cases, occurring among patients who had been in the Institution a long time, and for this reason treated here, of which only six died."

We have thus quoted in full the explanation given by the report for the enormous bill of mortality during the year. Without doubt, the number of deaths has been, to some extent, improperly increased from the sources to which this explanation alludes. But, after all, the grand cause for this startling fatality has not been even hinted at in the attempted explanation. This cause is the improper treatment of the patients—improper, in crowding them together in such numbers that two or more occupy the space sufficient only for one—improper, in giving them neither sufficient exercise nor a diet so nutritious as the preservation of their health requires—improper, in not supplying them with sufficient attendants, either of nurses or of medical officers.

In the spring of 1847, the writer of this notice visited the Institution in question, and passed through one of its male wards, itself damp and dirty, where the patients were so numerous, standing, sitting, and lying upon the floor, that he was obliged to *thread* his way among them, *and yet they had not been out of doors during the whole winter.* Their personal appearance was as wretched as was their position. *There* is the secret of the long roll of deaths. *That* accounts for the upwards of one hundred fatal cases included under the four heads—"general debility," "dysenteric diarrhœa," "chronic diarrhœa," and "phthisis."

In regard to the alleged want of attendants, the report itself bears testimony so far as relates to the nurses.

"There are only five regular attendants for the whole number of inmates.—*Each attendant has from seventy-five to eighty patients in charge,* assisted by prisoners from the penitentiary.

"At the commencement of the year, there were nineteen of this class (prisoners) in the various wards, but the number was gradually diminished, so that, for the last six months, only nine have been employed, and those principally in keeping the rooms in proper order. It is unnecessary to remark that these prisoners are wholly unfit to have in charge the insane; they cannot be made to comprehend that kindness is to be the restraining power. Since the number was diminished the patients have been more quiet, and better order has prevailed in the halls, as lunatics who are convalescing make better assistants than Penitentiary *help.*"

We would here enter into more details in relation to this Institution, were it not that the report next to be noticed will continue the subject before us. It is due to Dr. Ranney to state that, during almost the entire year, the history of which is included in his report, he was a subordinate officer, subject to the direction of the superintending physician of the almshouse.

6th. According to the ordinance already mentioned, by which the government of the asylum on Blackwell's Island was rendered independent of that of the almshouse, four physicians were to be elected to act, in rotation, as visiting medical advisers. Drs. Williams, Macdonald, Ogden and Earle were appointed to this office by the Common Council in October, 1847; but in the early part of 1848 the last-mentioned resigned.

The report before us is dated March 16th, 1848. After giving an historical sketch of the measures for the relief of the insane paupers of New York, it proceeds with an account of a visit to the Institution, made by the visiting physicians in company on the 25th Nov. 1847. From this we are constrained to make a liberal extract for the purpose of illustrating *the results of making the offices in public Institutions a part of the spoils to be gained by political partisanship.*

"We found 375 patients under the care of one resident medical officer, who, in addition to his strictly professional duties, had to act as apothecary.

"The only portions of the original plan of building finished (the north octagon and the north-west wing), were found not only fully occupied, but crowded. The first and second stories of the wing, (the only parts primarily designed for

the occupancy of patients.) if they had not been crowded, would have been considered comfortable. The ceilings are high, the main halls cheerful, the rooms opening into them on either side ample for single patients, and the whole, excepting the small cells at the west end, for disorderly patients, were cleanly and in good order. Both these stories were occupied by females. The basement or ground floor, originally destined for store rooms, &c., was found occupied by men, damp, ill-ventilated and gloomy. *Many of the inmates were consequently sick with dysentery, diarrhœa or fever*, several years' experience having fully demonstrated, what was anticipated, when the building was first planned—that its basement is decidedly unhealthy. *Most of the cases of fever and diarrhœa which have prevailed at the Asylum, originated here;* and when the present resident physician first took charge of the Institution, he found no less than 25 or 30 patients suffering under scurvy."

"The Asylum, though generally well built, shows a want of attention to repairs, which no judicious house owner would consider it good economy to permit. In well-arranged asylums, it is considered necessary that the patients of each distinct class should have an airing-yard, to which they may resort at all times during the day, without hinderance. There are no yards attached directly to the asylum on Blackwell's Island, but there are two small enclosures, at the distance of about two hundred and fifty feet from the Asylum, surrounded by a fence ten feet high, which effectually cuts off the fine views for which this part of the island is remarkable. To remedy this, a platform was erected in each yard nearly as high as the fence, which the patients might mount and enjoy the prospect, but this has now become so dilapidated as to be quite useless. The patients are taken by their keepers into these enclosures, locked up, and left to themselves, without occupation or amusement, and without the ability of looking upon one of the most beautiful scenes that can be found in the vicinity of New York. From these places they are conducted back as they were taken out, and confined to the house. In the finest weather, it cannot be supposed, with the limited* number of keepers, that the patients can enjoy even this poor recreation more than twice a day, while in cold and stormy weather they must be entirely deprived of it.

"The building known as 'The mad house,' standing on the water's edge, about 150 feet east of the Asylum, was found considerably out of repair, badly adapted to its purpose, unmeasurably crowded, imperfectly ventilated, and extremely offensive. This house, which is about 36 by 80 feet, and three stories high, *not much larger than an ordinary three story dwelling, contained no less than* 113 *patients!* The first floor was appropriated *to men, of whom* 19 *were white and* 12 *coloured, total* 32. The second and third stories were occupied by *women, of whom* 78 *were white and* 3 *coloured. total* 81. For this number of patients, there were 24 cells on the second and 18 on the third floor, *making about two occupants for each cell of* 4 *by* 9 *feet* The water closets of each story had no head of water to carry off their impurities, and were consequently very offensive. For this large number of patients there were found no airing yards. The two which had been originally prepared, being miserably small and without prospect, had become so dilapidated as to forbid their use. After examining this part of the establishment, we could not but agree that its name 'Mad House,' was well applied, for there was *madness* in its conception, *madness* in its completion, and *madness* in its continuance. It was certainly more full of *madness* and better calculated to perpetuate *madness* than any house we have ever examined. * * * *

"If the condition of the house itself were unsatisfactory, that of its inmates was much more so. The first visits of inspection were among the most painful duties of our lives. Notwithstanding the faithful exertions of the resident physician, idleness and confusion seemed to pervade the establishment. Three hundred and seventy-five patients, eight or nine-tenths of them being incurable, were confined in a space not too large for two hundred, without regular treatment, occupation or classification. They were accumulated in large numbers in the halls and lobbies. In one place, the floor was covered with them; in another, which was a small passage, warmer than the rest of the house, and about 16 feet long by 3 or 4 wide,

* "To show how much the Asylum stands in need of suitable nurses and attendants, it may be mentioned that the resident physician has detained 20 patients, after their recovery, to do the work of the house, rather than employ prisoners."

we saw 25 women sitting or lying on the floor, and almost covering it, and in an adjoining cell of the smallest size, 3 or 4 more in the same posture. We observed in the basement, a number of men confined to their beds with fever and diarrhœa, their rooms badly ventilated and offensive: in the 'Mad House,' 113 crowded into a space not large enough for half the number, 14 confined to cells, 3 or 4 restrained by iron hand cuffs, and one with a strait jacket; there being only one penitentiary convict to take charge of 32 men, and one woman to manage 82 female lunatics, with no yard for exercise or change of air; but all confined to the house; all idle, some excited and noisy, singing, chattering, or raving; others moping and listless, reminding us of the descriptions of mad houses in the last century, and in countries not yet enlightened by Christianity and civilization. The air of this house, particularly of the upper story, was very offensive. The beds throughout the whole establishment were of straw, and not sufficiently covered, most of them having but a single blanket. The patients were confined in the yard of the main building, without prospect, object, occupation or amusement; and without any attendant constantly present to supervise them; some lounging or walking about, others lying or sitting on the ground, some bare-footed, and many ragged.

"But that which struck us most forcibly, was the idleness that pervaded every part of the establishment. Idleness in the sane, all will admit, leads to vice: with the insane it tends to the worst consequences. Man permanently deprived of reason, and impelled only by his animal instincts, uniformly degenerates, unless guided and sustained by the intelligence of others. Lunatics assembled together in large numbers, and neglected or maltreated, form the most painful of all human spectacles; but if properly treated and occupied, may be made agreeable and even useful members of society.

"In thus expressing ourselves frankly with respect to the state of the Asylum as it was found in November, we do not wish to be considered as attaching blame to the resident physician, who, we believe, did all he could, with the means in his power, for the good of his patients. We throw the blame on the imperfect organization of the whole establishment; the want of room, the absence of classification, the deficiency of attendants, male and female; in fine, the destitution of all those aids and conveniences which the superintendent of every lunatic asylum requires, for the satisfactory performance of his duties."

The fact here related requires no comment.

The report proceeds with an argument showing the importance of a more liberal expenditure for the support of the Asylum, and concludes with a series of *recommendations* for the general improvement of the institution. Whether these will ever be heeded or not remains to be seen. The attending physicians and the superintendent have already done much towards ameliorating the condition of the patients, and the aspect of the establishment has been greatly improved since the new organization of the official department went into operation.

7th. The number of patients at the Bloomingdale Asylum for the Insane

on the 1st of January, 1847, was - - - - -	131
Admitted during the year - - - - - -	143
Whole number during the year - - - - -	274
Discharged and died - - - - - -	129
Remaining December 31st, 1847 - - - - -	145
Of the patients discharged, there were cured - - -	58
" " " " died - - - -	13

"Five of those who died were alarmingly ill when they were received, and neither of them lived more than fifteen days after admission.

"Of the admissions, thirteen were cases of delirium tremens and habitual inebriety, and twelve of the cures were of the same class.

"The number of patients," says the report, "is now and has been throughout the summer and autumn, as large as the Institution will accommodate consistently with comfort and judicious management."

8th. At the Pennsylvania Hospital for the Insane, the number of patients

on the 1st of January, 1847, was	161
Admitted during the year	240
Whole number for the year	401
Discharged and died	213
Remaining 31st December, 1847	188
Of the patients discharged, there were cured	111
" " " " died	29

"Of these cases of recovery," says the report, "one had been insane nearly eight years, and had been an inmate of this Institution nearly six. This fact is noticed here, not only on account of the very pleasant and unexpected result in a valuable individual, but as encouragement for perseverance by the friends of patients. It was one of the class of cases where, even with the most unfavorable train of symptoms, it is not possible to say, with entire certainty, that the individual is incurable. The occasional occurrence of such cases is among the strongest arguments against Institutions for the supposed incurable alone, and teaches how very important it is, that the chronic insane should always be kept surrounded by everything that would seem to offer any aid to their restoration."

Dr. Kirkbride, like some other physicians occupying similar situations, is subjected to the annoyance of seeing some of his patients prematurely removed from under his care. The number thus taken away during the past year is twenty, of whom it is supposed that ten would have recovered had their treatment not been interrupted.

	M.	F.	Total.
Whole number of admissions from 1841 to 1847 inclusive	663	513	1176
Discharged or died	566	422	988
Of which there were cured	298	215	513
" " " died	62	51	113

We have, in some Medical Journal, seen it asked whether the blind ever became insane? and recently a similar question has been asked in reference to the deaf and dumb. The following extract from this report will answer both of these queries.

"A gentleman, of great private worth, and distinguished for his scientific acquirements, but deaf and dumb from birth, after laboring for many months under unequivocal symptoms of mental derangement, was compelled to enter the Hospital; and a young lady, blind, at least from early infancy, having an acute attack of mania, has been among the number of our patients. A still more striking combination of afflictions, however, occurred some time since in a boy, whom the writer had had occasion to see frequently, and whom, at one time, it was proposed sending to this Institution, who, blind from birth as believed, subsequently lost his hearing completely, then the power of speech, and after some interval, unmistakeable indications of insanity were manifested, by acts of the most violent and singular character."

At the Bloomingdale Asylum, New York, there is now a young man, who is deaf, dumb and insane, and within the last four years there have been two blind persons among the patients; in one of them, however, and perhaps in both, the blindness was not congenital. One of the men patients, who was about three years ago an inmate of the same Institution, had two deaf mute sisters who were insane.

The following remarks of Dr. K. are from that section of the report devoted to moral treatment.

"As already remarked, we still have occasional musical and social parties for patients of both sexes, but less frequently than formerly—the lectures and exhibitions being found to be an excellent substitute, and I am disposed to believe, upon the whole, much more useful; although the former, held occasionally, make a pleasant variety. The lectures and exhibitions enable patients to pass the time pleasantly, give them some mental employment, with an opportunity of acquiring useful information, and without any risk of undue excitement. It is not always easy, in a large and indiscriminate assemblage of patients and attendants, to pro-

mote exactly the degree of hilarity and excitement that is useful or desirable. Cheerfulness is at all times to be desired in a hospital for the insane, but levity is neither useful nor becoming in such a position, and some well-disposed persons do not seem able to discriminate between them. Any kind of assemblage that produces much excitement or undue levity of behaviour in those participating in it, is, as a general rule, objectionable and hurtful in such an institution."

For some years past it has been a favourite idea with some of the physicians connected with institutions for the insane, that the construction of small cottages, detached from the main buildings of an Asylum, would improve the establishment by thus affording quiet and secluded accommodations for such as could appreciate them. Dr. K. has at length succeeded in carrying this plan into execution, by the construction of a building, one story high, forty-six feet long, by twenty-five wide, with a piazza or portico seven feet wide, extending the whole length of its front. It contains a parlour twelve by fifteen feet, two patients' rooms, fourteen by fourteen feet, and two rooms for attendants seven and a half by fourteen feet: the ceilings are twelve and a-half feet high. "All the windows have inside shutters, the floors are neatly carpeted, the whole is furnished in good style, and has the air of a neat and comfortable private residence."

Dr. K. does not appear to think that it would be judicious greatly to multiply this class of buildings, and in connection with the subject makes the following remarks:—

"Although a limited number of patients, *much fewer than is generally supposed*, would really be benefited by being accommodated in detached cottages, and while the feelings and means of the friends of others might make such provision an essential element of their coming to a hospital at all, still it scarcely admits of a doubt that the great majority would derive no advantage from such an arrangement, and that they would really do better, be more comfortable, and probably recover sooner in regular wards, where the classification and discipline are good, and the attendance of the best kind."

9th. At the Ohio Lunatic Asylum the number of patients, Nov. 15th, 1846, was as follows:—

	Male.	Female.	Total.
Whole number of patients - - -			291
Admitted in the course of the year - -	90	91	181
Whole number during the year - -			472
Discharged and died - - -			143
Remaining Nov. 15th, 1847 - - -	167	162	329
Of the patients discharged, there were cured -			90
" " " " died -			23
Whole number of cases admitted in nine years	551	496	1047
Whole number discharged recovered -			448
" " " died -			115

Causes of Death.—Inflammation of the liver 1, dropsy 4, inflammation of the brain 4, fever 10, apoplexy 5, consumption 15, palsy 6, epilepsy 16, marasmus 14, diarrhœa 13, dysentery 13, inanition 9, atrophy 4, erysipelas 1.

In reference to recoveries at different periods of life, Dr. Awl, after quoting the opinion of Esquirol and of Burrows, says: "Recoveries are unquestionably most numerous between the ages of twenty and thirty, because at that period we have the largest number of admissions, at least on this side of the Atlantic. But according to our statistics, now extending beyond one thousand cases, the *per cent.* of recoveries is certainly greatest in those who exceed the fortieth year. And we find a similar conclusion in the published records of the State Lunatic Hospital in Massachusetts."

The fact here asserted is interesting, and will probably elicit farther observation upon the subject. Is it not probable that among the patients over forty years of age there are more cases of second attack or recurrent insanity than among those who are under that age? We should feel better satisfied if the per centage of *persons*, rather than of *cases*, was given.

During the past year an additional building has been appended to this Asylum.

"It is one hundred and fourteen feet long, thirty-six wide, and three stories in height, and contains a washhouse, ironing and drying rooms, a bakery, an engine-room, sundry sleeping apartments for assistants, and a chapel.

This Institution has always been ably managed and deservedly ranks among the best in the country.

10th. The statistics in the report of the Lunatic Asylum of Tennessee, include a period of two years. The number of patients at the commencement of that period was as follows:—

	Male.	Female?	Total.
Whole number of patients - -	32	17	49
Admitted in the course of two years -	36	15	51
Whole number - - - -	68	32	100
Discharged and died - - -	24	12	36
Remaining Oct. 1st. 1847 - -	44	20	64
Of the patients discharged, there were cured	31	7	20
" " " " died -	4	2	6

"Three or four of those patients noticed in the foregoing statement as having been *discharged cured*, are yet within the Institution, awaiting their removal at the hands of their friends."

This Institution has been in operation several years, but so far as we can learn, it has ever been and still is almost entirely devoid of all those means and appliances for physical comfort and for moral treatment which are now considered essential to a respectable Asylum for the Insane. It would appear to be a mere house of detention, rather than a curative Hospital, and that, aside from purely medical treatment, the patients who recover must have got well in spite of their situation, rather than as a consequence of it. As proofs of this supposition we make the following extracts from the report.

"The whole of the building is not more than adequate for the accommodation of forty-nine patients. The number has at times exceeded sixty, and at present consists of about that number (as appears by the above statistics there were sixty-four). The number of male inmates at this time is forty-six (according to the statistics forty-four), whilst there are in that wing of the building set apart for their use, but twenty-one rooms. Hence the impossibility of so classifying and arranging them that each may receive the treatment best adapted to his case. * * * * The means at the disposal of the Institution only enable it to employ two male attendants and one female. It must be obvious to any one that such a number is wholly inadequate to the proper discharge of the duties devolving upon them."

"I beg leave," says Dr. M'Nairy, "to reiterate the observations made in my former report, in relation to the use of cells, for the confinement of furious maniacs. Those belonging to this Institution *being under ground, and not susceptible of ventilation*, are wholly unfit for the habitation of human beings; and even supposing them to be of value, as places of temporary confinement, they are, nevertheless, utterly useless for any remedial purpose."

" * * * * * * *During a considerable portion of the year we have not water even to drink, to say nothing of the large quantity wanted for culinary and other purposes.*

"The undersigned (Dr. M'Nairy) also feels it his duty, in as emphatic a manner as he can, to call attention to the *utter absence of all means in the institution of indulging the patients in any healthy and innocent amusements and recreation.* Confinement here may be set down as little better than solitary. The patient is secluded from the world, debarred access to everything calculated to remind him that life still has pleasures, and society its allurements, and in fact, the dull and monotonous existence led within our walls, *is calculated rather to canker and craze the sane mind, than to restore to sanity that which was already sunk under its trials.*"

It would not be necessary to adduce farther evidence in proof of the utter unfitness of this receptacle as a curative establishment for the insane. It cannot be that an Institution so devoid of the means for accomplishing its end will long be tolerated. Dr. M'Nairy proposes that the present buildings be abandoned, and that new ones be erected at some place where all the modern improvements can be introduced. The legislature of the state, if properly enlightened upon the subject, will undoubtedly authorize this plan to be put into execution.

11th. The report of the Lunatic Asylum of the State of Georgia includes a period of two years, ending on the 25th of October, 1847. At the beginning of this term the number of patients, according to the statistics given in the report, appears to have been - - - - - - - - 60

Admitted in the course of two years - - - -	71
Whole number - - - - - - -	131
" Discharged" - - - - - - -	22
" Eloped" - - - - - - -	6
" Died" - - - - - - -	27

The number of cures is not stated, and the only remark we find in the report, in reference to the subject, is as follows:

"The number of our patients restored, has been, in proportion to the whole number in the Institution, small; but in proportion to the cases that can be regarded as curable at all, it is, in view of all the circumstances, quite equal to any reasonable expectation."

"The number of deaths," says Dr. Green, "during the past two years, (three of which occurred prior to my taking charge of the asylum,) would be likely to strike one uninformed in relation to the nature of the cases, as disproportionately large, but such will inevitably be the result in the earlier years of any institution, where all classes and conditions are received, and where, from the influence of a variety of causes, a large number are sent to the Asylum, only because they have become mentally and physically a burden too intolerable to be longer borne; and one-half of the deaths were cases of epilepsy, a disease rarely ever cured, and the combination of lunacy and epilepsy, never. Many are positively *in extremis* when brought to the Asylum, and have not survived a month."

The means for classification and moral treatment seem to be still deficient at this Asylum. Improvements, however, have been made since the present zealous and efficient superintendent was appointed, and under his care it may reasonably be expected that the Institution will flourish and assume a higher rank than it has hitherto sustained.

12th. For several years past, Dr. Edward Mead, a professor in the Medical Department of Illinois College, has taken an active interest in the condition of the insane in that State. He ascertained that there were about three hundred persons in the State who were suitable subjects for an institution devoted to the treatment of mental diseases, delivered an address upon the subject to the people of Jacksonville, made an appeal to the governor and physicians of the State, and presented a report, at the request of a select committee of the Senate, to that branch of the Legislature. These efforts, together with those of Miss Dix, resulted in a legislative act authorizing the establishment of a State Hospital for the Insane. Dr. Mead also concluded to carry out an intention which he had entertained for several years of establishing a private institution of a similar kind. He accordingly opened a temporary establishment, at Chicago, and received the first patient in August, 1847. At the time of the date of the report (Feb. 1848), fifteen patients had been admitted. Of these, five had been discharged cured, one had died, and nine remained:

"The site selected for the permanent edifice comprises twenty acres of land, situated two miles north of the city, and half a mile north of the lake shore. The edifice will be an elegant and commodious structure, built of stone, in the Norman Gothic style of architecture, and in its interior arrangements adapted to the peculiar wants of the insane. When completed it will be sufficiently capacious to accommodate 130 patients. A part of this permanent edifice is expected to be in readiness for the reception of patients early in the ensuing spring.

No report has hitherto emanated from the Butler Hospital, at Providence, R. I., or the State Lunatic Hospital, at Trenton, N. J., both of which have been opened within the past year. P. E.

ART. XX.—*Medical Chemistry, for the Use of Students and the Profession: being a Manual of the Science, with its applications to Toxicology, Physiology, Therapeutics, Hygiene, &c.* By D. P. GARDNER, M. D., formerly Professor of Chemistry in Philadelphia College of Medicine. 1 vol. 12mo. pp. 396. Philadelphia: Lea & Blanchard, 1848.

MANUALS and Systems of Chemistry have been offered to the profession in sufficient numbers to suit the tastes of all, but a strictly medical chemistry has yet been a desideratum. To fill this void, and to direct attention to the intimate connections between chemical and medical science, has been the endeavour of the author in the production now before us. In a work comprised within 400 duodecimo pages, it cannot be expected that the whole of these relations should be embraced, or that minuteness of detail could be admitted, even in those portions which the author has conceived to be of most importance. Accordingly, we find that the chemistry of the metals occupies but a small space, while that of organic compounds comprises nearly one-third of the whole work. Commencing with the imponderables, the author gives a succinct and clear account of the laws and phenomena exhibited by this class, interspersed with occasional illustration and application, interesting and important to the physician and student, and concludes each division by a general application to the different branches of medical science. Caloric thus has its laws unfolded; and then the relations of heat to climate, to animals and plants, to man, and to therapeutics, pass in review; and its important connections not only with health and disease are pointed out, but with animal and vegetable organization and nutrition, together with its application as a remedial agent, and the principles on which it acts. The same remarks apply to light and electricity, in which the latest observations of Matteucci and others, and their views with regard to the physiological relations, are noticed. The general laws of chemistry are considered with more detail. Constantly keeping in view the relations to medicine, the subject of isomorphism gives rise to comments on the agreement in therapeutic action of compounds similarly constituted, with reference to experiments confirmatory of the remarks; while catalysis affords a similar opportunity, in relation to morbid and therapeutic actions. Most of the non-metallic bodies, together with arsenic and antimony, and their more important compounds, are noticed with sufficient detail, for the appreciation of their relations to physiology, toxicology and hygiene, avoiding for the most part such subjects as are especially to be found in all works on general chemistry and the materia medica. Organic chemistry is treated not in its whole extent, but by a judicious selection of subjects, and their relations to vegetable and animal physiology, embodying the results of the latest German and French investigations, up to the time of its publication, presenting in a clear and connected manner, an interesting survey of the science, and rendering appreciable the great advance which has been made within a comparatively short period. In closing these remarks, we would suggest to the author, that, in the next edition, notes be appended to the most recent investigations, referring to their sources, that the student may be enabled to acquire in detail information not yet familiar to all. The subject of ventilation, with its relations to hygiene and therapeutics, although it has attracted considerable attention, is yet but inadequately appreciated or understood, and would form an appropriate subject in connection with the remarks on the atmosphere, without much increase in the bulk of the volume.

The mechanical execution of the work is creditable to the publishers, the paper good, the type clear and sufficiently large for the size of the work. R. B.

ART. XXI.—*A Dispensatory, or Commentary on the Pharmacopœias of Great Britain and the United States, comprising the Natural History, Description, Chemistry, Pharmacy, Actions, Uses and Doses of the Articles of the Materia Medica.* By ROBERT CHRISTISON, M. D., V. P. R. S E., &c. Second edition, revised and improved: with a Supplement containing the most important new Remedies, with copious additions, and two hundred and thirteen illustrations. By R. EGLESFELD GRIFFITH, M. D., &c. 1 vol. 8vo. pp. 1008. Philadelphia: Lea & Blanchard, 1848.

THIS American reprint of the extensive work of the eminent Scotch pharmacologist, like its two congeners, treats copiously of the remedial agents embraced by the Materia Medica, and with the London and United States, constitutes the trio in the English language, designated as Dispensatories—now in full career of popularity. All three are professedly exponents of the several Pharmacopœias appertaining to the kingdom of Great Britain. The United States Dispensatory, however, has given prominence to our own authority, and made the others secondary, while in the original publications of London and Edinburgh, our standard is either altogether neglected, or but transiently referred to. The present edition of the work under consideration has the deficiency supplied by the labours of the editor.

We have always considered it extraordinary that, while three Pharmacopœias existed in Great Britain, and two of them possessed a peculiar advocate and exponent in the form of a Dispensatory, the remaining one, the Dublin, had not a corresponding accompaniment. Irish medical talent is certainly equal to the undertaking. In government, we are aware that English, Scotch and Irish policy, and schemes of national advantage, are widely different. This may be comprehended by reference to circumstances of a local character, and hereditary prejudices, and we are not disposed to discuss whether or no a moral difference exists, sufficient to give rise to modifications of law and equity: but that the disparity in physical traits is so decided as to call for a difference in the preparation of purgatives, diuretics, &c., appears to us an indubitable fallacy. One method of dosing might suffice for all, and the experiment ought at least to be tried, by framing a national British Pharmacopœia.

Christison's Dispensatory was first issued in 1842, and may be regarded as the successor to the New Edinburgh Dispensatory of Dr. Duncan—a work which began its career in the first year of the present century, and terminated with the eleventh edition, in 1826. This latter work also formed the basis of the American Dispensatory by Dr. Coxe, which commenced in 1806, and ended with the eighth edition, in 1830. The second edition of Dr. Christison's work, which is the one now published, has been enriched by such information as discovery in science has afforded within the past six years. It has been posted up to the present time, and thus again offered to the profession: in this country, with the additions of the American editor.

The first portion, termed the Introduction, is devoted to the processes of pharmacy. The principles of pharmacy are here succinctly laid down, and each form of exhibiting medicines clearly made known and discussed. Where chemical apparatus is required for the formation of particular preparations, a drawing of the utensil employed is frequently given. In this chapter, weights and measures are duly set forth and explained, and to it have been added by the editor, Dr. Griffith, a chapter on specific gravity, with ample tables of the density of various fluids and preparations; an exposition of thermometrical equivalents, with full tables exhibiting relations on the different scales, the effects of temperature, symbols, solubility of salts, and an explanation of terms used in prescriptions, from Gray's Supplement to the Pharmacopœias.

The Materia Medica proper commences in the usual way, the alphabetical arrangement being followed, which seems, time honoured, to be inseparable from a dispensatory. The information imparted under each head, is that found in the more recent treatises on the Materia Medica. Where articles are derived from the vegetable kingdom, the plants affording them are referred to their appropriate natural history position under classes and orders, but few botanical details are

indulged in. Medical botany is of secondary consideration, and the author is no doubt impelled to this by the full instruction which Scotch students receive in that department, and the co-existence of the admirable treatise on the subject by Dr. Lindley. The account of drugs met with in the English market is clear and concise, and their chemical constitution correctly given, in accordance with the most recent analyses.

There are certain subjects to which Dr. Christison appears to have given especial attention; the chapters upon these are peculiarly rich with information. Conium is one of them, which by him has been experimented on. The test for the activity of this drug, which originated with the Edinburgh College, is invaluable, we mean that by liquor potassæ. Another of these is scammony. Dr. Christison's investigations into the purity of this drug, have presented the subject in its true light, and shown that the grossest impositions have been practised. Sophisticated scammony is most common in the English market, and by the author has been divided into three kinds, which are termed *calcareous*, *amylaceous*, and *calc-amylaceous*. The worst of the specimens contained by analysis 42·4 per centum of resin. Bad as these may be, they must be decidedly active when compared with the stuff designated as scammony, and sold as of *first quality* in the United States. One lot which was extensively distributed, and which during the past year fell under our observation, contained but 6 per cent. of resin; the basis of it was gum tragacanth. The moral sense of the drug-community must either be greatly depraved, or else extreme ignorance prevails in it, to tolerate such imposition. The recent act of Congress with regard to adulterated and spurious articles, will, we hope, aid and facilitate the exposure of all such imposition.

For the chemical examination of articles employed in medicine, we are indebted to European, and more especially, to continental experimenters. The rich reward of fame is justly due the chemists who have zealously and indefatigably laboured in this field of research: a few laurels, however, might be awarded those who in this country have manifested a similar spirit, and really have contributed their quota to the progress of analysis. We are prompted to this reflection from the examination of the article on Lobelia, in which not one word is mentioned of the researches of Mr. Procter, although he, at least ten years back, satisfactorily isolated the principle upon which the activity of the drug depends, and by a continued series of experiments since, has studied its characters and properties. His papers are published in the American Journal of Pharmacy. We might excuse Dr. Christison for such omission, but in the reprint justice should have prompted, as well as policy suggested, the completion of the chemical history.

Upon turning over the pages some slight errors are observable, as for instance, in attributing the Tahiti arrowroot to Tacca pinnatifida. Mr. Nuttall, several years ago, described the plant affording Sandwich Island arrowroot, and gave to it the name of *T. oceanica*, because so widely differing from the Asiatic species as to constitute a different one.

The Dispensatory issued on this side the Atlantic, differs from the original Edinburgh edition in the addition of numerous illustrations, which, with the specification of the processes of the United States Pharmacopœia, its nomenclature, and an account of indigenous products, constitute the labours of the editor. The book, then, is replete with valuable information; it is one of the standards of the day; and as such, must meet with the favour it deserves. J. C.

Art. XXII.—*Lead Diseases: a Treatise from the French of L. Tanquerel des Planches, with Notes and Additions on the Use of Lead Pipe and its Substitutes.* By Samuel L. Dana, M. D., L. L. D., p. 441. Daniel Bixby & Co., Lowell, 1848.

This most important and valuable work contains a great amount of information which is accessible to the members of the profession nowhere else, and which it is dangerous for them to be without. It is much to be regretted, that the original work of Tanquerel, with the observations of Dr. Dana, and of many physicians, both abroad and at home, had not sooner been made public, and urged upon the public attention in this country. But, better late than never. We are entirely

satisfied, from our own experience and inquiries, that there is an immense and a daily increasing amount of disease in various parts of the country, the cause of which is overlooked or unknown, and which is occasioned by the poison of lead. With the light now shed upon this subject, it will be the fault and the blame of physicians, if this prolific source of suffering and ill health is allowed any longer, through ignorance or inattention on their part, to exist.

We do not propose to enter upon any systematic review of the work of Tanquerel and Dana, or to give any detailed synopsis of its contents. The late period at which it was received, if there were no other reasons, would deter us from either of these undertakings. But there are other reasons. The contents of the work are so multifarious as to defy any satisfactory analysis within reasonable limits, and they are so important that every physician is bound, by all the obligations of duty and of interest, to make himself thoroughly acquainted with them by direct reference to the book itself.

Tanquerel's treatise, in two volumes, containing about eleven hundred pages, was published in 1838. It received in 1841, from the Royal Academy of Medicine, the Montyon prize of 6000 francs. Dr. Dana says of his own volume, that it is both a translation and an abridgment. In condensing the original, he has aimed to give faithfuliy the meaning of his author, without confining himself to a simple rendering of his language.

The body of the work is divided into five parts, devoted respectively to the following subjects, to wit:—*Lead Colic; Lead Arthralgy; Lead Paralysis; Lead Encephalopathy;* and the *Preservative Treatment* of lead diseases. Fourteen elaborate chapters are given to the consideration of lead colic!

With these few preliminary remarks, we wish now to call the attention of our readers particularly to the subject of *lead pipe as a water conduit, in connection with lead diseases.* Dr. Dana's appendix of about seventy pages is mostly taken up with this subject, and it is this portion of his work which will at this time and in this country attract, as it deserves, the largest share of attention. From its cheapness and its admirable adaptation to this end, the use of lead pipe for the distribution and delivery of water for domestic purposes, in this country, has become almost universal; a great deal of this pipe is more or less acted upon by the water that passes through it. The amount of the solvent action of the water upon the lead varies very greatly in different circumstances; and it depends principally upon the quality of the water. When this contains certain salts in considerable quantity the solvent action is slight, or hardly appreciable, or it may cease altogether; under other conditions, as where the water is free or nearly free from salts, soft and pure, this action is energetic and constant In the former case, the action of the water upon the lead is prevented by the formation of an insoluble lining upon its inner surface. In this connection it is important to state that the results of experiment in the laboratory are not to be regarded as conclusive so far as the practical question is concerned; the action of the water may cease upon a short piece of pipe in the hands of the chemist, while it continues in pipe used for domestic purposes. The most common and efficient protective salts are sulphate and carbonate of lime.

Dr. Christison, after a careful investigation of the subject, comes to the following conclusions on the use of lead for transmitting water.

"1. Lead pipe ought not to be used for this purpose, at least where the distance is considerable, without a careful examination of the water to be transmitted.

"2. The risk of dangerous impregnation of lead is greatest in the instance of the purest water.

"3. Water which tarnishes polished lead, when left upon it a few hours, cannot safely be transmitted through lead pipes, without certain precautions. Conversely, it is probable, though not proved, that if polished lead remains untarnished or nearly so, twenty-four hours in a glass of water, the water may be safely conducted through lead pipes.

"4. Water containing less than about an 8000th of salts in solution, cannot safely be conducted in lead pipes without certain precautions.

"5. Even this proportion will prove insufficient to prevent corrosion, unless a considerable part of the saline matter consists of carbonates and sulphates, especially the former.

"6. So large a proportion as a 4000th, probably even a considerably larger proportion, will be insufficient if the salts be in a great measure muriates.

"7. In all cases, even though the composition of the water seems to bring it within the conditions of safety now stated, an attentive examination should be made of the water after it has been running a few days through the pipes, for it is not improbable that other circumstances besides those hitherto ascertained may regulate the preventive influence of neutral salts."

We have room now for only a single remark in regard to the forms of disease resulting from the poison of lead derived from lead pipes. This whole subject is comparatively new. There is reason, however, to think that the violent acute disease called *lead colic*, so frequently attacking workers in lead, and painters, is not so often the result of lead poisoning from water pipes, as *neuralgia* and *partial paralysis*. It is a matter deserving immediate and most serious consideration, whether the great increase which has recently taken place in the amount of neuralgic affections, may not be, in no small degree, dependent upon the use of lead pipe for the transmission of water for domestic uses. E. B.

Art. XXIII.—*Annuaire de la Mortalité Génévoise, Publié sur l'invitation du Conseil de Santé.* Par le Docteur Marc D'Espine, Membre du Conseil de Santé, Médecin de Prisons et de l'Institut des sourds-muets du Canton de Genève, Membre de plusieurs sociétés savantes. Annés 1844 et 1845; Genève, 1847. Brochure, p. 62.

Geneva can boast of a registration of the mortality, births, &c., of her inhabitants, extending farther back than that of any other city of modern Europe—even to the year 1549. The records of three hundred years are now a most valuable acquisition, affording the best possible means of drawing comparisons between different periods, and ascertaining the influences exerted through the improvements in civilization. The fact they demonstrate, of the great increase in the mean duration of life, is itself sufficient to show the great value of registration, so tardily adopted, and carelessly attended to, in other cities, especially those in the New World.—We learn from the Genevese records, that towards the close of the seventeenth century, the probable duration of life was not over twenty years; at the close of the eighteenth century it attained to thirty-two years, and at present it has reached forty-five years.

The report under consideration shows the refinement to which the system of registration has been brought in Geneva. It gives not only the sums of mortality, but the specific cause of each recorded death, with its general character and duration. The following few examples will illustrate the plan pursued.—*Février 2e, f. 54. Pneumonia gauche, 15 jours de maladie. Mars 6 m. 63 Pneumonie, base droite, mort en 7 jours. Juin 44 rm. Erysipèle de la face, mort le 8me jour (autopsie), meningée saine, cervelet ramolli. Setem. 31, pf. Grossesse, péritonite hémorrhagique, expulsion d'un fœtus de 6 semaines pendant la maladie (autopsie), péritonine plein de sang, pas de foyer hémorrhagique evident.*

Through a system of abbreviations and signs, a line or two is made to show the most important information relative to each decease recorded. Thus, the figures following the date, indicate the age. If this sum is not followed by any letter, it signifies years; if followed by an *m*, or a *j*, or an *h*, it shows the months, days and hours. In a very few cases, where the age could not be indicated, ciphers were substituted. The letters *m*, or *f*, indicate the sex, whether masculine or feminine. Sometimes the sexual letter is preceded by an *r*, or a *p*, when it signifies that the individual was rich or poor. The deaths of citizens are distinguished from those of the country, by the letters indicating the sex and condition being placed perpendicular, whilst those for the country are in *italics*.

So much for the particular signs. The general arrangement admits, 1st, of a comparison of the whole number of deaths with the population. 2dly, a comparison of the deaths of the rich and the poor, from the city or country. 3dly, the law of mortality as influenced by months, seasons and different ages. 4thly, the mean duration of life at any given age, with the average mortality, &c. Me-

teorological observations, kept at the observatory, are attached, for the period of registration, together with statistical and topographical observations relative to the affairs and local condition of the canton. In conclusion, a series of supplementary notes afford more particular details in regard to certain cases included in the records, such as the nature of the accident, instrument or means of suicide, &c.

One of the most interesting points connected with the Genevese records of mortality, is the mode of establishing the accuracy of the details serving as the basis of the statements. The deaths, without any exceptions, are all certified to by physicians, not only the attendant, but those specially appointed to this duty by the Health Office. By these, notes, more or less extended, are made out, in regard to the deceased, and the morbid or accidental causes which led to death. These notes are examined every fifteen days by a medical board, discussed, and sometimes extended or modified. Even after all this, the note of registration is carried to the attending physician, who adds to it all the information interesting to record. This last duty is performed at the special request of Professor de Roches, dean of the medical faculty, at whose expense it is continued. What a commendable zeal in the cause of science is shown by this enlightened and liberal professor!

The classification of deaths adopted in this report, differs materially from that of the British Registrar General, and the one recommended by the American Medical Association. The general division is first into six principal classes or groups, namely, *still-born, external accidents, diseases, vices of organization, and old age.* There can be little diversity of opinion in relation to this general division of the causes of death. But when it comes to a more particular classification of the diseases, this unity of views ceases. We shall translate our author's words upon this subject. "Most of the nosological tables of mortality," he observes, "exhibit classifications more or less anatomical or physiological; the author is convinced that this principle is fallacious when it is designed to construct a table with the view of showing the influence of general causes in the production of mortal diseases. The principle which ought to govern in the classification of mortal diseases is the pathological, because in the present advancement of science it is known that general causes operate differently and in accordance with the nature of the diseases, rather than in relation to the organs affected. The nosological distinction of greatest importance rests upon the *acute* or *chronic* characters of diseases. Acute diseases themselves differ essentially, according as they are simple inflammations such as may be artificially produced by the application of a mere mechanical or chemical agent, or as they may possess a *specific* character preventing their creation artificially, or by simple irritation. Chronic diseases differ according as they are the result of some particular vice, such as that producing scrofula, tubercles, cancers, or, as they are the simple result of a chronic inflammation, leading to a hypertrophy, atrophy, induration, or a softening of the organs. This is the substance of the true principles of classification for fatal diseases which we wish to study in their relations to general causes appreciable through statistical investigations."

It appears from the report of Dr. d'Espine, that the deaths for four years in the entire Canton of Geneva, averaged 2.02 per cent. of the population, a very low rate of mortality, being little over one death to fifty inhabitants. This small proportion of deaths compared to what we find in some other countries in Europe, and especially in some of the cities of the United States, is in part owing to the smaller proportion of births, the average of which during four years was only 2.09 per cent. of the population, a fraction more than the average mortality. As the proportion of deaths in childhood is greater than at the more advanced periods of life, a large amount of births must necessarily lead to an increase in the proportion of the general mortality to the population. It must also tend to reduce the average mean duration of life. Hence, Geneva appears to have a smaller proportion of deaths to her population than other places where the amount of infants is much greater.

In estimating the rates of deaths, births, etc., to the population, reference should, if possible, be made to the influences of immigration and emigration, circumstances which often invest such subjects with great obscurity. "It is clear," says our author, "that in a country where adult emigration predominates, the proportion of deaths to the remaining population will rise, as in a country without emigration,

the proportion of births to the population will be increased. Either of these circumstances has for result the increase of the infantile population, that in which the deaths are in greatest proportion compared with those occurring at other periods of life. But the difference observable between a population chiefly prolific, and one chiefly emigrant, compared with a stationary population, is, that in the first the proportion of births to the population increases much more than that of the deaths to the population, whilst in the second it is the proportion of deaths to the population which undergoes increase to a greater extent than that of the births."

G. E.

ART. XXIV.—*Lectures on the Theory and Practice of Physic.* By JOHN BELL, M.D., Mem. of the Amer. Med. Assoc., and of the Med. Soc. of the State of Pennsylvania, Fellow of the Coll. of Phys. of Philada., Mem. of the American Philosoph. Soc., and of the Georgofilii Soc. of Florence, &c. &c., and WM. STOKES, M.D., Lecturer at the Med. School, Park St., Dublin, Physician to the Meath Hospital, &c. &c. Fourth edition: 2 vols. 8vo., pp. 784—976. Philadelphia, Ed. Barrington and Geo. D. Haswell, 1848.

THESE lectures exhibit a curious instance of the original author becoming, in a great degree, subsidiary to his annotator and editor. From the addition, by Dr. Bell, of lecture after lecture, in each successive edition, to the few which he was induced to append, in the first instance, to those of Dr. Stokes—the work has grown from a comparatively small size to two ponderous volumes, in which the amount of matter contributed by the former greatly exceeds the original text of the latter. By these additions the lectures, instead of being restricted, as at first, to the consideration of a few diseases only, embrace now a very full account of nearly all the maladies to which the human organism is liable. In place of further augmentation, the work would seem to demand rather the labour of retrenchment, in some, at least, of its parts. Familiar with the labours of those who, as well at home as abroad, have of late years advanced, by the extent and accuracy of their observations, our knowledge of every department of pathology and therapeutics, Dr. Bell pours forth with no niggard hand of his own fullness of matter. No one can rise from the perusal of his lectures dissatisfied in consequence of the paucity and incompleteness of the information they communicate, if he have no reason to complain of their occasional diffuseness. In his desire to pass in review the opinions derived from every authoritative source, the lecturer has, perhaps, occasionally overloaded his subject, and rendered less clear and precise the doctrines he would himself inculcate, by the very means he has taken to illustrate and confirm them.

The work is, nevertheless, a most valuable one, and may with great confidence be referred to as a very full and accurate transcript of the present condition of medical knowledge, in reference to each of the subjects of which it treats; as well as for much sound doctrine in regard to the character and management of many of those diseases which, from their extensive prevalence in certain sections of our country, are of especial interest to the American physician; in this respect, the lectures of Dr. Bell on the leading forms of fever, especially, may be consulted with profit by all who are called upon to practice in the southern and western portions of the United States.

The authors have done ample justice to the labours of the leading modern physicians, both at home and abroad. The contributions to our knowledge derived in particular from British, American, and French observers, are noticed at length. The works, however, of the physicians of Germany have evidently been consulted less frequently than their value would seem to demand. By the German physicians the field of general and special pathology has, of late years, been cultivated with uncommon care and industry, and to their researches we are indebted for a mass of valuable facts calculated to throw not a little light upon many of the more important forms of disease. Of many of these facts our authors have been put in possession indirectly: we complain not that the lectures before us are deficient in important medical facts derived from particular sources, but that the additions

to our knowledge are not always credited to those by whom they were actually made.

We have no desire at this late period to enter into a detailed examination of the views advanced by our authors in respect to the several diseases of which they treat. In making such an examination we should find but few occasions for dissent, and few errors to point out. The lectures of Drs. Bell and Stokes have become already ranked among the standard American works on the theory and practice of medicine, and we admit, deservedly so, as well from their fullness as from their general accuracy in doctrine, as regards both pathology and therapeutics. And though, perhaps, a work less adapted than some others for the instruction of mere students, it will be found particularly valuable for the use of the practitioner.

In our perusal of the work before us we have noted a few typographical errors. Some of these are particularly unfortunate, occurring, as they do, in the Greek etymologies of technical terms, or in the names of foreign treatises referred to as authorities. Thus we have πεψις, πυρ, κερ, μειτον, οφθαλμοι, for πεψις, πυρ, κορ, μειτρον, οφθαλμος, and *Deobachtungen uber*, for *Beobachtungen über* or *ueber*.

In the ninety-seventh lecture, it is stated that *kink hoart* is the common German name for hooping-cough: this is an error; the disease is known in Germany by the appellation *keichhusten* or *kindhusten*. Kink hoart is not German; it is perhaps a misspelling of the Swedish name for the disease, *kik-hosta*. D. F. C.

Art. XXV.—*A Practical Treatise on Poisons; their Symptoms, Antidotes and Mode of Treatment.* By O. H. Costill, M. D. Philadelphia, Grigg, Elliot and Co., 1848. pp. 160: 12mo.

This is an excellent compend, and a well and clearly arranged digest of the facts and opinions of the latest and most esteemed authorities; but would be far more useful, if the author had also given a synopsis of the tests for the several poisons; as without a precise knowledge of the article that has been taken, any attempt to administer an antidote would be mere guess work, and in many cases might increase instead of mitigating the evil. Dr. Costill claims no "originality for the work except in design," but has "endeavoured to collect and arrange the symptoms, post-mortem appearances and treatment of poisoning, from the best writers on the subject." We laud him for his candour, so rare in this book-making age, when we find so many works on the most important subjects claimed as new and original, which have cost the would-be author little exertion beyond the mere putting together of other men's labours. We fully admit the value of good compilations when they present a condensation of materials often-times sparingly scattered through numerous and expensive publications, but we do complain that in too many cases, these compilations are offered to the world as wholly original, without the slightest allusion to the source whence the information has been derived.

In conclusion, we can recommend Dr. Costill's treatise to the attention of the profession, and hope that it may meet with due encouragement. R. E. G.

Art. XXVI.—*Medical Lexicon. A Dictionary of Medical Science, containing a concise explanation of the various subjects and terms, with the French and other Synonymes, notices of Climate and of celebrated Mineral Waters, Formulæ for various officinal and empirical Preparations, etc.* By Robley Dunglison, M. D., Professor of the Institutes of Medicine, etc., in Jefferson Medical College, Philadelphia. Seventh Edition, carefully revised and greatly enlarged. Philadelphia, 1848: 8vo. pp. 912. Lea and Blanchard.

When the demand for a work is such as to exhaust six editions, it is certainly strong *prima facie* evidence of its value. In the case of the Medical Dictionary of Dr. Dunglison, this demand has been produced, not only by the general excellence

of the work, but by the fact that in the preparation of each successive edition, the utmost care has been taken to render it more complete and thus increase its adaptation to the wants of both student and physician.

In the sixth edition were comprised nearly two thousand five hundred subjects and terms not contained in the one immediately preceding, many of which had been introduced into medical terminology in consequence of the progress of the science, and others had escaped the author in previous revisions. While, in the edition before us, there have been added between six and seven thousand terms which are not to be found in the preceding editions. To accommodate these, not only has the size of the page been increased, but the entire work has been enlarged by more than one hundred pages.

The great value of a medical dictionary results not merely from its comprising an accurate account of those terms which constitute the present nomenclature of the science, but also from its presenting a definition of all the terms which are liable to be met with in an extended course of medical reading, as well as a list of the various synonymes made use of by distinguished writers, whether of the same or different nations—by the ancient as well as by the modern authorities in medicine and its collateral sciences. In short, to render a medical lexicon a useful and satisfactory book of reference to the student and physician, it should be sufficiently comprehensive to prevent disappointment, when its pages are consulted for any term "that has been legitimated in the nomenclature of the science," even though it may have ceased to be used by writers of the present day.

It is in this point of view that the Medical Dictionary of Dr. Dunglison recommends itself to the profession. It is certainly more complete and comprehensive than any with which we are acquainted in the English language; while, in its extreme accuracy, the fullness and comprehensiveness of its definitions, and the general convenience of its arrangement it will bear a very favourable comparison with either of the leading medical lexicons of France or Germany.

Few, in fact, could be found better qualified than Dr. Dunglison for the production of such a work. Learned, industrious, persevering and accurate, he brings to the task all the peculiar talents necessary for its successful performance: while, at the same time, his familiarity with the writings of the ancient and modern "masters of our art," renders him skillful to note the exact usage of the several terms of science, and the various modifications which medical terminology has undergone with the change of theories or the progress of improvement.

By a reference to the title-page, it will be perceived that the Dictionary of Dr. Dunglison is not simply a lexicon, in the strict meaning of the term, a mere *wörterbuch*—but that it comprises a variety of subjects besides the definition, description, and etymology of technical terms. These subjects, though treated with great conciseness, increase considerably the interest and usefulness of the work.

D. F. C.

Art. XXVII.—*The Transactions of the American Medical Association. Instituted* 1847. Vol. 1. Printed for the Association. Phila. 1848: pp. 403.

This is a handsomely got up volume of 403 pages, and is illustrated with five plates, two of which are coloured. It contains, in addition to the minutes of the late meeting in Baltimore, the Reports of the several standing committees:—viz. on Medical Sciences, on Practical Medicine, on Surgery, on Obstetrics, on Education, on Medical Literature, and on Publications;—also a report from the committee on Indigenous Botany, and reports from several other special committees; a highly interesting communication from Dr. Edwards of Ohio, on the adulteration of drugs; with various other documents presented to the Association: and three very interesting memoirs, one on Œdematous Laryngitis successfully treated by scarifications of the glottis and epiglottis, by Gurdon Buck, M. D., of New York; a second by the same gentleman, entitled "A new feature in the anatomical structure of the genito-urinary organs, not hitherto described;" and finally one on Ophthalmitis Post-febrilis, by A. Dubois, M. D., of New York.

We are unable at this late period to notice the contents of this volume more

particularly, but we must say that they are varied and highly interesting, and that the publication will do credit to the Association.

ART. XXVIII.—*Summary of the Transactions of the College of Physicians of Philadelphia.* From April 4 to Aug. 1, 1848, inclusive. Vol II., No. 5. Philadelphia, 1848: pp. 60, 8vo.

THE present number fully sustains the character of this publication, and is replete with important contributions to our science. Among other articles of interest, are the following:—the highly valuable "Annual Report on Diseases of Children, by Dr. Condie;" an account, by Dr. Parrish, of the extraction of urinary calculi by a novel method; a case of pseudo-membranous laryngitis, in which the operation of tracheotomy, performed at an advanced stage of the disease, was followed by complete recovery, by Dr. C. D. Meigs; a case of membranous croup of a severe character, and attended with all the symptoms of approaching death, in which recovery took place without the operation of tracheotomy, by Dr. Parrish; a case of parturition occurring in a female labouring under stricture of the vagina, by Dr. C. D. Meigs; and a Biographical notice of Dr. Jacob Randolph, by Dr. Norris.

We have not space here to notice these communications particularly, but shall do so elsewhere; (see *Am. Intelligence.*) There is one subject, however, we must here advert to; and in calling the attention of the College to it, Dr. Moore has performed an important service to the community:—we allude to the serious pernicious influences exerted on the health of children, by the present system of discipline pursued in the schools of this city, and we are happy to find that the College has appointed a committee to investigate the subject, and report thereon, at an early meeting. In common, we presume, with most practitioners, we have frequently been a painful witness to the injurious effects upon the health of children, caused by the protracted sessions of most of our schools, the long confinement of children in close rooms, with a total disregard to ventilation, and the overtasking of their minds; and we can fully endorse the following remarks of Dr. Moore on the subject:

"Dr. Moore said, that for some time past he had been convinced of the injurious effects upon the health of young children resulting from the system of school discipline pursued in many of the public and private seminaries of this city. He alluded, more especially, to the holding of but one session a day. By this arrangement the children were subjected to a confinement of from four to five hours, with little or no intermission, often in small, overheated, and badly ventilated apartments. In children who are thus deprived of an adequate amount of out-door exercise, while their minds are taxed much beyond their powers, he was well convinced, from much reflection and considerable personal observation, a train of morbid symptoms are frequently induced, which are, in many cases, of considerable severity, and have a tendency to impair the future comfort and usefulness of the little sufferers. Undue confinement and too protracted application of the mental powers in childhood, would invariably, he was convinced, if it did not produce positive disease and suffering, impair the health and vigour of the system and render it more liable to the influence of those morbid influences to which it should be accidentally subjected."

QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *Nerves of the Liver.* By C. H. Jones.—The liver receives a pretty ample supply of nerves from various sources: branches of the left pneumogastric, branches from the semilunar ganglia, and some from the right phrenic, are usually described as entering the organ at the transverse fissure. Having entered the portal canals, they run in the areolar tissue which surrounds the vessels, and may be seen distinctly in great numbers when the coats of the vein are dissected off. By ordinary dissection they may be followed some distance along the portal canals, but nothing satisfactory can in this way be determined respecting their distribution and arrangement. By careful dissection, and removal of the coats of the vessels, which were treated with acetic acid and examined under a power of 200 diameters, Mr. Jones has succeeded in tracing the nerves attached to the vessels of the liver further than has yet been done. His principal conclusions may be stated as follows:—1st. The nerves of the liver are almost exclusively composed of fibres of the kind termed by Henle *gelatinous;* a very few isolated tubular fibres are sometimes present. 2d. They are distributed along the whole of the vessels, and have a very complicated plexiform arrangement; and appear even in their minutest ramifications to be quite distinct from all the other tissues around them. The termination of the nerve-filaments appears to be in loops, but it is difficult to determine this point with certainty. 3d. The hepatic artery has a larger supply of nerves, in proportion to its size, than any other vessel; next in order follows the portal vein, and lastly the hepatic veins, which are very scantily supplied. The ducts also have but few nerves. 4th. The smaller hepatic arteries appear not to possess so many nerves as the larger; and it appears probable, that the nerves cease altogether with the circular fibres of the vessels. No nerves have been observed in the lobules. 5th. The organic nerves of the liver appear to consist of bands of a finely striated or granular material, in which elongated nuclei are set at intervals; and this basic substance has a tendency to divide longitudinally, although it is doubtful whether the so-called ultimate fibres are not the result of an artificial division.—*Lond. Med. Gaz.*, July 14, 1848.

2. *On the Independent Contractility of Muscular Fibre.* By Dr. E. Harless.—A new set of experiments performed on this subject, upon animals rendered completely insensible by ethereal inhalation, confirms the opinion that the irritability of muscle is a property inherent in the tissue itself, and not in any way derived from the nervous system. Dr. Harless found that even when the nervous system had been rendered, by the action of ether, utterly incapable of conveying a galvanic stimulus, applied either to the nervous centres or the nerve-trunks, the same

stimulus, applied directly to the muscles, would immediately throw them into powerful contraction.—*Brit. & For. Med.-Chir. Review*, July, 1848, from *Müller's Archiv*, 1847, No. 2.

3. *On the Changes which the Blood Corpuscles undergo in the Spleen.* By Profs. Ecker and Kolliker.—Dr. Ecker, of Basle, and Professor Kölliker have simultaneously been engaged in investigations on the nature of the cells which occur in the spleen of various animals, and which contain blood-corpuscles and yellow granules. Repeated observations convinced Dr. Ecker that the occurrence of these bodies was perfectly normal; and further, that the blood-corpuscles in the spleen undergo a normal disintegration. He found in the spleen of rabbits, dogs, sheep, and calves, besides the known cells and nuclei, other cells inclosing blood-corpuscles. Thus, for instance, in the calf, cells were observed of about 0·007 millim., containing *one* blood-corpuscle, and a perfectly pale and finely granular mass. On the addition of water, the cell burst, the blood-corpuscle escaped, and, after growing paler, disappeared. Other cells (of about 0·010 millim.) contained *two* blood-corpuscles, and besides these, some also contained a granular nucleus, exhibiting a perfect resemblance to the ordinary cells of the spleen; whilst others again enclosed only a fine granular mass, but no nucleus. Other cells contained *three* or *four*, or sometimes even *ten*, or more blood-corpuscles, of about 0·015 to 0·030 millim. The form of these cells is sometimes round, sometimes irregular; they sometimes contain a nucleus, sometimes not; the cellular membrane is generally very distinct. In some cells, instead of blood-corpuscles, there are only yellow, or brown, or blackish granules, which, as is evident from the stages of transition, are owing to a disintegration of the blood-corpuscles. Thus we find large cells (0·030 millim.) filled with shriveled, yellow blood-corpuscles, which do not change in water, and are filled with yellow granules. In the free blood-corpuscles numerous transitions from the normal to the shriveled state are observed, and nowhere are more important differences in the size of the blood-corpuscles exhibited than in those of the spleen. An investigation into the nature of the blood-corpuscles in the spleen of frogs and tritons, showed Dr. Ecker the occurrence of precisely similar changes; and in speaking of the signification of these alterations, he adduced two hypotheses, which had at first sight appeared to him to furnish an equally satisfactory elucidation of the subject. 1. That the blood-corpuscles, either singly, or several together, become enclosed in cells, within which they are disintegrated; or already disintegrated blood-corpuscles become enclosed by cells. This fact is not without analogy, since in the brain and the thyroid gland similar changes of the blood occur under different pathological conditions, as in effusions. The destination of these cells is not known with certainty, but as Dr. Ecker found them in the blood of the splenic vein (in a calf), he conjectures that they reach the liver with the portal blood; and that a separation of the blood which has lost its vitality is effected in some way by the bile. 2. The second hypothesis, the validity of which Dr. Ecker has, however, found reason to doubt since his investigations have been solely directed to the changes observed in the spleen of mammalia, was as follows: That the cells which enclose one or more blood-corpuscles are converted into lymph-corpuscles, the lymph being changed by the addition of blood-constituents. The red colour of splenic lymph appeared at first sight to corroborate this view, but subsequent investigations showed that no such bodies were to be found in the splenic lymph of a calf. It would appear that the separation which occurs in the vesicles of the spleen serves the same end as the vesicles of the other blood-preparing glands. Kölliker has extended his observations on these changes of the blood-corpuscles to so large a number of the classes of vertebrata, that we may consider them as of general occurrence in all these animals.—*Ibid.*, from *Henle u. Pfeuffer's Zeitschrift für rationelle Medizin*, Bd. vi. Heft. 2.

4. *On the Blood of the Splenic Veins and of the Vena Portæ.* By M. Beclard.—After long reflection upon the functions of the spleen, it occurred to M. Béclard, that an examination of the blood in the splenic veins might throw light upon this; and, in a letter addressed to M. Dumas, he furnishes an account of the results invariably arrived at in eight experiments performed on dogs.

1. The blood returning by the splenic vein, prior to its junction with the vena portæ and veins of the stomach, contains a smaller proportion of globules than arterial or even venous blood in general. 2. The quantity of albumen is proportionably increased—and, indeed, the disappearance of the globules can be conceived of with difficulty, without their principal constituent element being thus found to be present. 3. I have sought for the constant source of the renewal of the globules, which appeared to be thus incessantly destroyed in the spleen. I first thought of the lungs, and, as all the blood of the organism traverses them, the entire question resolves itself into this—whether a notable difference exists between arterial and venous blood, in respect to amount of globules. A larger proportion does exist in arterial blood, but to so slight an extent, as to be explicable by other causes; so that I abandoned the idea of the lungs being the exclusive organ for the formation of globules. 4. The arterial blood examined at different points of the circulation, is found to present an identical composition in the same animal; while the venous blood differs in respect to its proportion of elements, according as it is examined in different regions. The blood of the splenic veins is an example; but to my surprise I found that the amount of globules in that of the vena portæ, prior to its junction with these, so far from being diminished, was considerably increased; and so abundant is the supply of globules thus brought from its radicles to its trunk, that intestinal absorption at once presents itself as an explanation of the accumulation. The following table exhibits the differences as observed in four successive bleedings performed on the same dog:

	Ext. Jugular.	Mammary Artery.	Splenic Vein.	Vena Portæ.
Water - - -	778·9	750·6	746·3	702·3
Albumen - - -	79·4	89·5	124·4	70·6
Globules and Fibrine -	141·72	159·9	128·9	227·1

Annales de Chimie et de Physique, 1847, tom. xxi. pp. 506–8.

At the sitting of the *Académie des Sciences*, Jan. 17, 1848, M. Béclard made an additional communication upon this subject, and after referring to the above experiments, added, that he had since made thirty-six comparative analyses between the blood of the splenic and the external jugular veins; selecting the latter as the most convenient representative of the mean composition of venous blood. These also showed a less proportion of globules, a larger proportion of albumen, and a somewhat larger one of fibrine, in the blood returning from the spleen. "So that the spleen, so far from being an organ for the formation of globules, would appear to be the place of their destruction." To prevent error, the blood of the vena portæ was examined in its intestinal branch (sup. mesenteric), and the proportion of its elements was found to undergo an extensive variation. Thus, 1st, during the early period of the digestive absorption, the quantity of albumen is considerably increased; and 2d, the same occurs at a later period with respect to the globules: while, 3d, if the animal has been subjected to long abstinence, the proportion of constituents is the same as that found in the general venous system. "It results from these experiments on the blood of the vena portæ, that the globules commence and finish in the same system. While, in fact, the intestinal branch of the vena portæ brings the new globules to the common trunk, the splenic branch transmits to it the vestiges of those which have been destroyed in its interior. The blood of the vena portæ not containing a larger proportion of fatty matters than the venous blood in general, and chyle differing from lymph especially by the presence of fatty matters, it is, if not demonstrated, at least very probable, that albuminoid matters enter the blood by one sole channel, the vena portæ. On the other hand, these same matters enter the blood under one form alone, that of albumen. Finally, as the transformation of albumen into globules takes place in the vena portæ, and this only some hours after the commencement of digestive absorption, it results that the blood circulating in the portal system is not subjected to the general laws of the circulation. I shall examine this important physiological point in my next Memoir.—*Ibid.*, from *Comptes Rendus*, tom. xxvi.

5. *On the State of the Blood and Muscles in Animals killed by Hunting and by Fighting.* By G. Gulliver. (Proceedings of Roy. Med. and Chir. Soc., June 13.)—The

author commenced his paper by some extracts from the "Treatise on the Blood, Inflammation, and Gun-Shot Wounds," in which Mr. Hunter advocates the doctrine that the blood is a living fluid, which he considers to be supported by the phenomena connected with its spontaneous coagulation; and further affirms his belief that this property of the blood, as well as the contractility of muscle, is destroyed in animals hunted to death. The author's especial object was to demonstrate experimentally, that the latter opinion is at variance with his own observations, several of which he quotes. In the first, a hare was run down and killed by harriers: she became very stiff within a very few minutes after death. The heart was found, on examination afterwards, to be hard and contracted, and contained some small clots of blood. In the second observation, likewise upon a hunted hare, the phenomena were similar; but the amount of coagulum was greater, in consequence of the precaution having been taken to place a ligature around the root of the heart and lungs before excision. The fibrin presented the usual appearance under the microscope. The third observation was made on a hunted stag, which fell dead after a hard run. Some blood was obtained from the throat, which was cut; and this presented, three days afterwards, some shapeless and rather soft clots, amounting to about a third of its whole bulk; but there was no sign of putridity. The heart was likewise contracted and hard. As regards the stiffening of the muscles, the author has been informed, by observing stag-hunters, that this condition speedily supervenes when the animal is hunted to death. Analogous phenomena were noticed in cocks killed by fighting.—*Lond. Med. Gaz.*, June 1841.

ORGANIC CHEMISTRY.

6. *On the Presence of Lead and Copper in Healthy Blood.* By M. E. Millon.—When blood, as it issues from a vein, is received into a vessel containing about three times its volume of water, and is then introduced into a flask filled with chlorine, it coagulates, assumes a brown colour, and shortly forms a gray, amorphous pultaceous mass, in which all trace of organization of the blood-globules has disappeared. On squeezing this mass in a linen cloth, a fluid readily filters through, and remains limpid. In this liquid are contained all the saline principles of the blood—in the solid coagulum, all the organic matters are found. So complete is this separation of the organic and saline principles, that if the coagulum is washed and then calcined, it will be entirely consumed, without leaving a particle of residue. And, on the other hand, if the limpid fluid is evaporated to dryness, and burnt in an organic-analysis tube, so little carbonic acid will be evolved, that the quantity of organic matter not coagulated by the chlorine may be estimated as not exceeding, at the outside, 1 part in 100. This filtered fluid furnishes the means of determining the nature and amount of the fixed salts of the blood. And this may be done with such readiness, that in from two to three minutes all the iron which the blood had contained may be extracted in a state of clear solution, in which its various tests may be conveniently applied. The other fixed salts admit of being equally well obtained, without the long and difficult process of calcination to remove the organic matters. This convenient method of isolating the saline ingredients of blood may be applied equally well, also, to other organic fluids and tissues of the body. For chlorine acts in a like manner upon all.

The most important results which M. Millon has obtained by this process, are, that human blood invariably contains silica, manganese, lead, and copper. The proportion of silica and of the metals is sufficiently great that they may be detected without any particular modification of the ordinary mode of ascertaining their presence. After evaporating to dryness the liquid expressed from blood acted upon by chlorine, the residue is to be calcined, in order to remove any organic matter which has not been rendered insoluble by the chlorine. The ash is then to be submitted to the same processes employed in examining a mineral supposed to contain silica, manganese, lead, and copper. According to M. Millon's analyses, it appears that the quantity of silica in the calcined ash of human blood thus prepared varies from 1 to 3 per cent.; the quantity of lead from 1 to 5 per cent.; that

of copper from 0·5 to 2·5; and that of manganese from 10 to 24. In other experiments, M. Millon examined certain quantities of pure clot and of clear serum, to determine whether the lead and copper are disseminated through the whole mass of blood, or are limited, like the iron, to the red corpuscles. The results showed that the principal quantity of these metals was contained in the clot, and, therefore, doubtless belonged to the red corpuscles. A small quantity was found in the serum, but this was probably derived from a few blood globules either dissolved or suspended in the fluid.—*Lond. Med. Gaz.*, June 1848, from *Comptes Rendus*, 1848.

7. *Urea in the Humours of the Eye.*—The vitreous humour of the ox's eye contains 1·63 parts of solid matter in 100. Berzelius detected in it chloride of sodium, a small quantity of albumen, and certain principles soluble in water. M. E. Millon states that from 25 to 35 per cent. of this solid residue consists of urea. He found that the vitreous humour of the eye of man and of the dog possesses a similar composition. The aqueous humour also contains urea and chloride of sodium.—*Ibid.*, from *Comptes Rendus*, 1848.

8. *Creatine a constituent of Human Flesh.*—The existence of creatine in human flesh, not having been yet ascertained, although it is found in the urine. Dr. Schlossberger treated six pounds of human flesh by the usual process, and extracted from it a quantity of creatine, amounting in all to about two grammes, a proportion approximating very closely to that obtained by Liebig, for the quantity existing in ox and horse flesh. Dr. Schlossberger did not obtain the slightest trace of inosinic acid in this experiment.—*Monthly Retrospect*, Sept. 1848, from *Ann. der Chem. and Pharm.*, April 1848.

9. *Observations on the Relation of Acids to the Animal Economy.*—In a former article on the abuse of *alkaline* medicines (see number of this Journal for Jan. last, p. 237), M. Mialhe laid down the following propositions:—1. That the greater part of the humours of the economy being normally alkaline, the abuse of alkalies does not rapidly produce serious accidents, as they do not change the nature of the medium in which the chemical changes are effected. 2. The normal alkalescence in animals contrasts them with vegetables, whose constitution is naturally acid. 3. The alkalescence of the fluids is necessary for the decomposition and assimilation of hydro-carbonated amylaceous substances. 4. The employment of alkalies, generally useful, is only dangerous for those whose vital fluids are already supersaturated with them, as is the case in certain pathological conditions, and among the inhabitants of the country, who, during their laborious occupations, throw off much acid with their perspiration, or who live upon an entirely vegetable regimen.

From the above statement, it follows, that if the naturally alkaline fluids become neutralized, and still more if they become acid, functional disorders will result. The vital fluids whose composition becomes thus perverted, are no longer fitted to produce the necessary interstitial changes and intimate modifications. The economy, at first, struggles against this condition, but ere long yields to it; and debility, wasting, and serious diseases, as pyrosis, gravel, gout, scorbutus, or diabetes (diseases far more nearly connected together than is generally supposed), may result, and prove impossible of relief as long as the acidity prevails.

A superabundance of acid may arise in the economy from various sources. 1. During the heats of summer many persons make an immoderate use of acidulated beverages. 2. The diet may be too azotized. Meats, by reason of their albuminoid matters, contain much sulphur and phosphorus; and these bodies, during their combustion in the economy, give rise to large quantities of sulphuric and phosphoric acid. 3. The most important of all the sources is bodily inactivity, in consequence of which a deficiency in the excretion of acids by means of the perspiration exists. Thus we find uric acid, gout, and diabetes especially prevailing among those classes whose diet is too animalized, and bodily exertion defective. This has long been recognized to be the case in gout and gravel, and is no less true as regards diabetes, a disease of far more common occurrence than is suspected. The glucose derived from feculent matters cannot be decomposed or assimilated in the absence of alkalies, and diabetes is a result. Herbivorous

animals, whose fluids are still more alkaline than our own, never suffer from this disease.

The peasant in the country, sweating enormously, and at the same time increasing the alkaline state of the humours by his vegetable regimen, can bear large quantities of acid drinks. So, too, the inhabitants of hot countries eat with impunity enormous quantities of acid fruits. The acids of fruits, however, always are less dangerous than the free acids, as they are in part united with alkalies, and their salts undergo changes in the blood, which transform them into carbonate of potass. Wherever inactivity or cold diminishes the cutaneous secretion, the ingestion of acids becomes especially dangerous; and thus gout or diabetes, which had disappeared, may be reproduced by a low temperature alone.

If certain waters are more favourable than others to health, a fact which did not escape the Romans, this is due to the presence of a marked proportion of bicarbonate of lime. Such waters immediately saturate superfluous acidity, facilitate the decomposition of glucose, and are especially adjuvatory to the formation of bone and the prevention of rickets.

A question has of late much occupied chemists, viz., why the organic acids should pass into the urine and the mineral acids not. That portion of the former of these which remains after saturating the alkalies, may pass at once off by the urine; but the mineral acids being endowed with the property of coagulating albumen, which the others are not, can never reach very far, since at every step they are absorbed by the tissues and the fluids which impregnate them. The resulting coagulum may, indeed, gradually yield its acid to the alkaline bases of the blood, and the acid so saturated may pass into the urine as a salt, but it can never reach the fluid in its free state. "So much do I rely upon this explanation, that I am certain that phosphoric acid, in spite of its mineral origin, would reach the urine in its free state; for, unlike the other mineral acids, it does not coagulate albumen, and in that respect is analogous to the organic acids."—*Med.-Chirurg. Rev.*, July, 1848, from *L'Union Médicale*, 1848, No. 22.

MATERIA MEDICA AND PHARMACY.

10. *On Digitaline: its Physiological and Therapeutical Effects.*—The subject of digitaline has been treated, some years ago, with great talent by Messrs. Homolle and Quévenne, (see number of this Journal for July, 1845, p. 182,) and more recently by Messrs. Bouchardat and Sandras. Much, however, remained to be done in a clinical point of view, and this deficiency M. Rayer has endeavoured to supply in his investigations, reported in a paper by M. Hervieux.

As to the physiological effects of digitaline, it may be said that doses of one-forty-eighth, one-twenty-fourth, and one-sixteenth of a grain, are not disagreeable to take, and produce no disgust or repugnance afterwards. The lowering effects on the pulse have been noticed in all patients, without exception: it was retarded from twelve to forty-eight pulsations, or, in other words, the mean amount of diminution was between one-fourth and one-third; the maximum, one-half, and the minimum, one-eighth. Two or several hours must, however, elapse before these results can be noticed. The pulse, if the whole length of the treatment be kept in view, reaches the maximum of retardation only after a week or two. This maximum is then, strictly speaking, an absolute one, and the maximum which is observed daily, five or six hours after the ingestion of the drug, is a relative one. The peculiarities of the pulse, when thus lowered, are extremely variable: in most cases it is small; but it acquires, nevertheless, a certain amount of resistance and hardness, rarely recovering its normal fullness. A phenomenon worth noticing is the effect of digitaline on the irregularity of the pulse; for the ingestion of the drug may produce this irregularity, and either modify or destroy it, if it were pre-existing. But it may be gathered from experiments, that digitaline, at least in therapeutical doses, improves the qualities of the pulse, instead of injuring them; that it diminishes its frequency, and regulates its action, bringing it rather nearer to the normal standard than removing it from the same. The urinary functions are much influenced by digitaline. This is evinced both by the increase in the

quantity of the evacuations and their frequency. One-twenty-fourth or one-sixteenth of a grain, administered for some time, has, in the majority of cases, increased the amount of urine by one-half; in some cases, the proportion was less; and in other very rare ones, it increased fourfold. The physiological effects can, therefore, be thus summed up:—

1. Digitaline, in doses of the twenty-fourth to the sixteenth of grain, renders the circulation slower, and increases the secretion of urine.

2. Doses of one-twelfth to one-eighth of a grain may give rise to serious disturbances of the nervous centres and the digestive organs.

3. Beyond an eighth of a grain intolerance always sets in, and death might ensue if this limit were overstepped, or if the attempt were pursued too long.

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11. *New Organic Base in Opium.*—Dr. G. Merck, in the examination of a quantity of the residues of opium, has discovered a new base for which he proposes the name of *papaverine*. This substance crystalizes in groups of pointed crystals from its spirituous solution. It is sparingly soluble in cold alcohol and ether, but much more so in these menstrua at the boiling temperature. It is insoluble in water. It scarcely affects reddened litmus paper; with sulphuric acid it gives a blue colour. The salts of papaverine are for the most part sparingly soluble in water, and the hydrochlorate is especially remarkable for the facility with which it crystallizes. It is obtained in right-rhombic prisms, the angles of which are 80° and 100°. The sulphate and nitrate are also readily crystalizable. With bichloride of platinum it gives a double salt in the form of a yellow powder, insoluble in water and alcohol. The analyses of Dr. Merck establish the following as the formulæ of the base and its compounds:—Papaverine, $C_{40}H_{21}NO_8$; Hydrochlorate, $C_{40}H_{21}NO_8+HCl$; Platinum Salt, $C_{40}H_{21}NO_8.HCl_1P+Cl_2$.—*Month. Journ.* and *Retrospect*, Sept. 1848, from *Ann. der Chem. und Pharm.*, April 1848.

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12. *On the Use of Adansonia Digitata as a Substitute for Sulphate of Quinine.*—M. Duchassaing, of Guadaloupe, having been led by the high price of sulphate of quinine to seek some other remedy against intermittent fevers, conceived the idea of employing the bark of *Adansonia digitata*. The result of a series of numerous experiments has tended to confirm the efficacy of this remedial agent, which is cheap, of an agreeable taste, exercises no action on the nervous system, but is favourable to the functions of digestion. M. Duchassaing has found these means succeed in cases where the strongest doses of sulphate of quinine had failed. One ounce of this bark, boiled in a litre of water till it was reduced one-third, generally sufficed to cure these kinds of fever.—*Gaz. Médicale*, May, 1848.

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13. *Solution of Gutta Percha as a dressing to Wounds.*—Gutta percha may be readily dissolved in bi-sulphuret of carbon in all proportions, and without the aid of heat. When a few drops of this solution are placed on the surface of any object, the carburet of sulphur evaporates with great rapidity, and leaves a thin layer of gutta percha, which acts as a preservative against the influence of air. On account of this, M. Vogel has employed this solution to cover wounds caused by a cutting instrument. The carburet of sulphur in evaporating produces a sensation of cold in the skin, which acts as an antiphlogistic, and a re-union of the margins of the wound is readily effected. The sulphuret of carbon should be quite pure and free from all traces of sulphuretted hydrogen. This may be effected by treating it with litharge or carbonate of lead. He has also employed this solution for covering the surfaces of fruit which it is wished to preserve in a collection of natural history. Up to the present time a solution of wax has been employed for this purpose, but there is a great difficulty in removing the wax from the fruit without tearing the surface. The solution of gutta percha, which completely prevents the fruit from drying, has also the advantage of being easily removed by means of hot water. The solution offers also a great advantage for paintings and drawings, for it possesses the property of fixing in the paper, pencil, chalk, or charcoal drawings in such a manner that it is impossible to injure them by friction.—*Prov. Med. and Surg. Journ.*, from *Med. Times*.

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14. *Liquid India-Rubber as Sticking Plaster.* By Mr. Douglas Fox.—If liquid

India-rubber, spread upon calico, or other material, by a stiff brush, or by a knife, be used as adhesive plaster, it will be found to answer far better, in almost every case, than any other adhesive material, as it sticks firmly, is pliant, produces no irritation to the skin, and will bear lotions, or washing over it. It is also most valuable in cases where the skin requires a soft plaster of an unirritating nature for its defence, as in old persons, or others long confined to bed. In such cases, it is better to use either soft leather or the vulcanized India-rubber, made in thin sheets; the latter, from its elasticity, is often the best, as it stretches with the skin on every movement of the body. To many kinds of wounds, from operations or otherwise, strips of thin vulcanized India-rubber, spread with the liquid, will be found invaluable as elastic adhesive plasters, as they become firmly attached to the skin, and give way to all its movements. But should any wounded part require a portion of the plaster to be non-elastic, as in the case of operation for hare-lip, &c., then, in order to secure such part from being stretched, a short piece of calico, about an inch in length, should be stuck upon the middle of the elastic plaster, by which means that portion would become stationary.

If a circular piece of thin vulcanized India-rubber, about two inches in diameter, be spread with the liquid, and applied on the abdomen of an infant having umbilical hernia, and a common bandage, such as is generally used for infants, be passed lightly round the body, the protrusion will be instantly checked; and if the same plaster be again spread with the liquid and re-applied, when it comes off from time to time, no trouble will be experienced by the infant. It is not necessary to use any pad or compress.

The liquid, which is like thick treacle, and the vulcanized India-rubber, may be procured in most large towns. (They are manufactured in Manchester, by Charles Mackintosh and Co.) In most cases, the thin sheet of the vulcanized India-rubber, or that sold as No. 50, will be the most suitable; in other cases, the thicker, or the No. 36, will be advisable.

The most convenient method of carrying the liquid is in one of the small, compressible bottles, used by painters, holding about an ounce, so that on removing the screw-cap, any required quantity can be squeezed out.

The above statement will give a general idea of the subject; the materials may of course be used in a vast variety of forms.—*Lancet*, Feb. 19.

MEDICAL PATHOLOGY AND THERAPEUTICS AND PRACTICAL MEDICINE.

15. *Observations on "Ochlesis," or the Disorder generated by the Accumulation of the Sick.* By Geo. Gregory, M.D. (Proceedings of Roy. Med. and Chirurg. Soc., June 27).—The object of this communication is to give a brief sketch of the evils which result from the accumulation of a vast number of sick persons under one roof. The author designates the general condition of disease produced under these circumstances by the term "ochlesis," derived from ὄχλος, a crowd. The normal type of the disorder is erysipelas of the face; but there are a vast number of allied affections which appear at different times with it, either separately or in combination. These are, erysipelas of the extremities, especially affecting wounds or sores; trails of erythematous redness, following the course of the chief absorbent trunks, and terminating in abscesses; cellular inflammation of the lower limbs, or phlegmasia dolens; cellular inflammation of the neck, leading to abscess, cynanche, otitis, glossitis; inflammation of the joints, terminating in purulent effusion; spontaneous gangrene of the genitals and of the extremities; gangrene supervening upon wounds or sores; spontaneous gangrene of some portion of the trunk of the body, especially in new-born children; gangrene of the umbilicus. Instances of pure fever, of a low type, from the same source, are not uncommon. Diarrhœa sometimes is the result, from the mucous membrane of the bowels becoming affected; and in the wards of lying-in hospitals, the "ochletic" miasm expends all its virulence on the peritoneum. The author has seen an asthenic form of laryngitis produced by the same cause, and believes that the pneumonia which springs up in hospitals has likewise its source in the contagious ochletic

miasm. This miasm, too, he thinks, produces the excessive depression which attends the worst cases of sea scurvy, and he has seen it occasion, in the Small-pox Hospital, a state resembling, in all respects, scurvy itself. All the disorders originating in the ochletic miasm are characterized by a low condition of the vis vitæ, and intractability. The experience of the Small-pox Hospital during many epidemic visitations, especially in the years 1842, 1844, 1847, and 1848, has convinced the author of the fact, that all the diseases which he has enumerated may arise from the same miasm. Contagious peritonitis is, perhaps, the only form of the ochletic malady that he has not seen at that hospital during the last twenty-five years; but he regards it as quite certain that this is "part and parcel" of the same disease. The chief agent in the production of ochlesis is, certainly, the crowding together of the sick in one spot; but matters are made much worse by unfavourable locality, by dampness of the surrounding soil, imperfect drainage, or choked sewers, by deficient ventilation, by the character of the cases congregated, by neglect of personal cleanliness, by the employment of unpurified bedding, and by inefficient purification of the wards. Since, however, the ochletic miasm is evolved only at certain times, a peculiar, but unknown, condition of the atmosphere must concur towards the actual result. The ochletic miasm appears to attach itself strongly to the walls and floor of the apartment—hence the use of covering the floor with a mixture of quicklime and water, of lime-whiting the walls, of fumigating with nitric acid or chlorine, &c. The great means of checking the development of ochlesis, however, is to restrict the admission of patients, and to leave the infected ward unoccupied for a certain time.—*Lancet*, July 17, 1848.

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16. *Cases illustrative of some consequences of Local Injury.* By Thomas Hodgkin, M.D. (Proceedings of Roy. Med. and Chirurg. Soc., June 27.)—The cases detailed are divided into two groups; the one, in which the effects had more or less the character of common inflammation; the other, distinguished by the production of an adventitious structure having the character of malignant disease. The following is an outline of the first of three cases included in the former group:—

R. M——, about forty-five years of age, an active man of business, of spare habit, but enjoying nearly uninterrupted health, had, rather more than two months before his death, fallen upon the edge of the curb-stone, in one of the streets of London, but was not sensible of having received much injury. About six or seven weeks afterwards he was exposed to wet and cold, after being heated and fatigued. In the evening he was chilly and distressed, and felt severe pain in the right side. He went out the next day, and was again exposed to wet and cold, but after this was confined to the house. A blister was applied to the seat of pain, and aperients and effervescing salines were given. He complained no more of pain in the side, but remained feverish and weak. Two half-glasses of claret produced a most disproportionate mental excitement, which returned in paroxysms. In a day or two after this he passed into a state of coma, with a very rapid, feeble pulse. Ammonia was given. He revived, and complained transiently of a little pain in the left arm and leg. A small induration was found near the calf of the leg: this slowly increased, and the day before his death caused considerable pain. After the mental disturbance had passed off, his head was generally hot, and his face for some time rather flushed; the expression of his countenance generally quite composed; the breathing quick, but easy, with a little stertor during sleep or somnolence; the tongue was moist, with a white fur on its surface; the pulse generally numbered 120; vomiting occurred twice or three times before death. A short time before death small pustules or maturing vesicles were noticed on the body and limbs.

On the examination of the body, a small subcutaneous collection of pus was found near the head of the right fibula. A larger tumour at the upper part of the left calf was not opened. Nothing remarkable was found within the cranium, except that in the cortical substance of the brain, at one particular spot, there seemed to be an evident but very partial softening, by which the separation of the external layer of the cortical substance from the subjacent layer was favoured. The right pleura presented marks of recent inflammation near its lower part, and over the fifth or sixth rib, from its anterior extremity to its angle, was elevated by rounded purulent deposits of various sizes. The corresponding part of the pul-

monary pleura presented similar purulent deposits, and the adjoining part of the lung was in a state of recent hepatization. The muscular structures on the exterior of the same rib were found sprinkled with similar, but smaller purulent deposits. The left pleura and lung, and the heart, were healthy. In the abdomen, the only remarkable appearances were numerous scattered depressions in the mucous membrane of the stomach, probably the enlarged orifices of follicles; marks of severe inflammation of the mucous membrane of the large intestine, from the middle of the arch of the colon to the rectum; and the presence of a small quantity of semi-transparent lymph between the convolutions of the intestines, between the middle and lower parts of the abdomen.

Of the second class of cases, seven examples are given. The author, in his remarks, first directs attention to the peculiarities of the former class of cases; the slight primary effects of the local injury, and the anomalous character of the secondary effects; the disturbance of the mental faculties in two of the cases; the constitutional disturbance, exciting the suspicion that the brain, heart, or some important part of the alimentary canal, was in a state of acute inflammation; and in two cases, the severity and rapidity of the symptoms, which were nearly as great as in cases of dissection and other poisoned wounds. He expresses the opinion, that these symptoms were due to a morbid poison being generated in the system—an opinion favoured by the occurrence of vesicles, with puriform contents, on the surface of the body. To explain the formation of this morbid poison, he supposes that the immediate effect of the local injury is so to impair a portion of the animal tissue, as to render it incapable of the proper maintenance of those molecular changes by which interstitial absorption and deposition are carried on; that the changes which take place in dead animal matter proceed in the injured part very slowly, and during health produce no inconvenience; but that if a febrile state of the body be set up by cold or other cause, the morbid influence of the part in which these chemical changes are going on produces inflammation or derangement of a more specific kind in the surrounding tissues, and the further production of a like cause of irritation in the system generally. In one case a remarkable odour of malt or saccharine matter was observed. This the author regards as an almost certain omen of death. In the second group of cases, instead of the vitality of the injured part being reduced, the most striking phenomenon is the production of a new growth, to which vital organization is essential. All living parts, whether old or new, are nourished from living material, and every living cell is produced from a previous cell. In these cases the injury does not destroy life, but only modifies the nutrition of the part, by exerting an influence on small molecules. The result is, that the new cells formed there are modified, from being, as it were, incubated in a peculiar *nidus*. When once the production of morbid corpuscles, suited to the production of a morbid tissue, has taken place, the growth of such structure at the affected part may almost be made the subject of ocular demonstration; but the subsequent appearance of a similar structure in other parts of the body is still involved in some mystery.—*Lancet*, July 17, 1848.

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17. *Case of Hydatids within the Cranium, giving rise to some singular Phenomena.* By James Stewart, M. D. Communicated with some prefatory remarks by Dr. George Gregory. (Proceedings R. Med. and Chirurg. Soc., June 27.)—In the first portion of this paper, Dr. Gregory remarks on the greater rarity of acephalocysts, or hydatids, in the intra-cranial structures, than in the thoracic or abdominal tissues, and refers to Dr. Craigie's observation that in the greater number of recorded cases only solitary serous cysts existed, not clustered hydatids. After noticing briefly three cases, one described by Rentdorff, a second related by Mr. Mowatt, of Worthing, in the second volume of the *Medico-Chirurgical Transactions*, and the third communicated by Mr. Burnell to the late Dr. Baillie, who remarked that none such had ever fallen under his own observation, Dr. Gregory states, as the result of his reading, that the normal series of symptoms flowing from the development of intra-cranial hydatids seem to be the following:—Pain in the head, succeeded, after a considerable time, by epileptic fits, and terminating in apoplexy. The Pathological Museum of the Army Medical Department at Fort Pitt, Chatham, contains two specimens of hydatids of the brain. An account of all that is known

relative to these cases has been furnished to Dr. Gregory by Dr. French. In the first case no cerebral symptoms were noticed during life. After death, cysts, described as hydatids, were found beneath the pia mater, covering the hemispheres, in the right corpus striatum, and in the substance of the cerebrum in its immediate vicinity. In the second case, epileptic fits were present for three years and five months before death. Here there were small round bodies, like hydatids, some hard and almost cartilaginous, not only beneath the pia mater, but also generally throughout the substance of both cerebrum and cerebellum. They were collected to the amount of an ounce or more. Each consisted of a distinct membranous sac, which sometimes appeared double, and in layers like an onion. All the cysts contained a clear fluid, with more or less cheesy-looking matter. Dr. Gregory then communicates the following case, which, at his request, had been transmitted to him by Dr. Stewart:—The patient, a gunner of the Royal Artillery, aged twenty-four years and nine months, was admitted in the Artillery Hospital, Woolwich, on the 29th of April, 1848, immediately on his arrival from Malta, with the following history:—He had arrived in Malta with his company in February, 1847, and from that time suffered from constant headache In November, 1847, he had a severe epileptic fit, followed by coma. Subsequently imbecility showed itself, and his vision became impaired, the pupils being sluggish, and the left eyelid affected with slight ptosis. His memory became defective, and he became subject to immoderate and uncontrollable fits of laughter when spoken to. When he arrived at Woolwich, he still presented the last-mentioned most remarkable symptom. His hearing was a little affected, but both eyes were amaurotic; he staggered in his gait like a drunken man, and the expression of his countenance was idiotic. On the 22d of May, a large piece of meat which he had attempted to swallow stuck fast in the œsophagus, and he was only saved from suffocation by tracheotomy. A few hours afterwards, epileptic fits ensued, and were followed by coma, in which he died on the following morning. On examining the body, there was found in the middle fossa of the base of the cranium, between the cranial bones and the dura mater, a mass, the size of a closed fist, which proved to be a nest of hydatids. The hydatids were very numerous, and varied in size from that of a large pea to the dimensions of a small orange. The contiguous bones were roughened The substance of the brain, which, together with the dura mater, was pressed towards the right side, presented no abdominal appearances. The lateral ventricles were filled with a clear fluid.—*Lond. Med. Gaz.*, July, 1848.

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18. *On the Minute Anatomy of the Emphysematous Lung.* By G. Rainey, Demonstrator of Anat. at St. Thomas's Hospital. (Proceedings of Roy. Med. and Chirurg. Soc., June 27.)—The author first describes the minute anatomy of the pulmonary tissue in the healthy state. He then gives an account of the microscopic examination of portions of lung which were in the state of ordinary vesicular emphysema. The first change which attracted his attention was the perforated or cribriform state of portions of the lining membrane of the air-cells. He next observed that the membrane in the vicinity of these perforations, as well as in many parts which had not yet become cribriform, was studded with minute portions of oil, the membrane itself being thinner at these points. He supposes, therefore, that the conversion of the nutritive material of the pulmonary membrane into oil induces a weakened condition of the membrane, and renders it unable to support the capillary plexuses, and to resist the pressure of the air in the air-cells, and that the perforations already mentioned are the consequence. Other changes follow. The meshes of the capillary network become wider, and the capillaries themselves smaller. Several cells become broken up into one cavity. Fragments of the lacerated cell-walls are then seen containing extremely elongated and contracted capillaries, with very large and generally very long areolar spaces. When the cavity has become very large, the air-cells which were broken up to form it have in a great measure disappeared, and its sides are held together merely by fibrous bands composed of the remains of small bronchial tubes, and of condensed interlobular cellular tissue. When such a cavity is situated near the surface of the lung, the pleura and sub-serous tissue become thickened. The disease is regarded by the author as an instance of "fatty degeneration."—*Lancet*, July 17, 1848.

19. *Aneurism of the Arch of the Aorta.*—Dr. Bellingham, in the numbers of the *Dublin Medical Press* for May and June last, relates several cases of aneurism of the arch of the aorta: with some remarks on the diagnosis of that disease, on the mechanism by which the double sound and double impulse are produced in aneurism of this part of the aorta, and upon the analogy between the normal and abnormal sounds of aneurism of the aorta, and the normal and abnormal sounds of the heart. The following are the conclusions at which he arrives:—

1st. That a double, not a single sound, characterizes aneurism of the arch of the aorta, which closely resembles the double sound of the heart, and may be termed its *normal* sound.

2d. That the normal double sound of aneurism of the arch of the aorta has its cause in the friction between the blood and the lining membrane of the orifice and parietes of the sac, because there is no other agency to which it can be referred.

3d. That the normal second sound of aneurism of the arch of the aorta is caused by the regurgitation of the blood into the sac from the aorta and large vessels which arise from it.

4th. That the first, or the second, or both aneurismal sounds, may be replaced by a murmur, which may have either a blowing, sawing, or filing character; and that such murmurs may be regarded as the *abnormal* sounds of aneurism of the arch of the aorta.

5th. That the first aneurismal sound is much more frequently superseded by a murmur than the second, because the force with which the blood is transmitted to the sac by the left ventricle is much greater than that with which it regurgitates into the sac at the period of the ventricular diastole.

6th. That the abnormal sounds of aneurism of the arch of the aorta, equally as its normal sounds, are caused by friction between the blood and the orifice or parietes of the sac; and that they are nothing more than exaggerated normal sounds —exaggerated, because the degree of friction is then increased.

7th. That in aneurism of the arch of the aorta pointing externally, the sound is not only always double, but a double impulse is frequently also perceptible to the hand.

8th. That the second impulse of aneurism of the arch of the aorta has its cause in the same agency which gives rise to the second sound; consequently neither a double sound nor a double impulse is perceived in aneurism of the abdominal aorta, or of any of its branches.

9th. That the phenomenon known under the name of Frémissement Cataire, or purring tremor, whether it occurs in an aneurism or a large artery, is nothing more than the pulse of aortic regurgitation on a large scale; consequently that it is a sign of regurgitation into the ventricles of the heart, into an aneurismal sac, or into a large or a dilated artery.

10th. That the remarkable resemblance between the normal and abnormal sounds of aneurism of the arch of the aorta, and the normal and abnormal sounds of the heart, renders it probable that the mechanism of their production is the same.

11th. That the abnormal sounds of the heart, having their seat at the orifices of the ventricles, and being the result of increased friction between the blood and the parts through which it passes, are (like those of aneurism of the arch of the aorta) to be regarded as nothing more than exaggerated normal sounds.

12th. That the impulse of the healthy heart, like that of aneurism of the arch of the aorta pointing externally, is *double*, not single; and that in certain abnormal conditions of the heart, this second impulse becomes very distinct, when it has been termed "the back stroke of the heart," or "the diastolic impulse."

13th. That the second impulse of the heart (like that of aneurism of the arch of the aorta) is felt exactly at the period of the second sound; and both sound and impulse appear to be produced by the same agency.

14th. That as sounds almost precisely similar to those of the heart are developed (in an aneurismal sac, which has neither muscular walls nor a valvular apparatus at its orifice, the latter do not appear to be as essential to the production of the normal sounds of the heart as most writers suppose.

15th. That the ordinary theory of the heart's sounds, which refers the normal

sounds to one cause, and its abnormal sounds to a totally different cause, fails to explain several phenomena connected with the heart's action and sounds.

16th. That the theory of the mechanism of production of the heart's sounds, laid down in the preceding pages, satisfactorily explains every phenomenon connected with the normal and abnormal sounds of this organ.

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20. *On the Action of Diuretics.* By Dr. Golding Bird.—Diuretic agents are divided into two classes by Dr. Bird. The first, termed *specific diuretics*, comprises those remedies which exert no chemical action on organic matter out of the body, and appear to be incapable of augmenting the quantity of solids in the urine, and hence they are only of use in increasing the elimination of water—they may and do act as renal hydragogues, but not as renal depurants. To this class belong squill, copaiba, broom, juniper, turpentine, digitalis, &c. All these have the power of increasing the discharge of fluid by the kidneys; but the quantity of solids present in the urine will never be found to exceed much the normal quantity. Hence, these drugs are only of service in the removal of dropsical accumulations.

The second class (termed *chemical* or *alterative diuretics*) comprehends those medicines which increase the amount of solid elements in the urine, and thus act as true depurants. It includes "the alkalies, their carbonates, and their salts, with such acids as in the animal economy are capable of being converted into carbonic acid, including the acetates, tartrates, citrates of soda and potass. These remedies all act alike; they all actively stimulate the excreting function of the kidneys, and increase the bulk of the urine: but they do more; they actually increase the metamorphoses of tissue by, in all probability, a direct chemical action on the elements of worn-out and exhausted tissues, or other matter in the capillary laboratory of the body. It is well known that alkalies and their carbonates powerfully dissolve albumen out of the body, and even break it up into various secondary bodies: thus, digested with an alkali, albumen yields leucine, protid, and erythro-protid, bodies allied to gelatine, formic acid, and other compounds. In like manner casein is broken up into tyrosin, leucine, valerianic acid, and other elements. From some such changes occurring in the body, and in the living organism itself, we find the chemical diuretics easily effecting important changes." This Dr. Bird has frequently confirmed by direct experiment; and he relates the case of a lady in whom, by the use of three drachms of the acetate of potass, the amount of solid ingredients of the urine passed in the twenty-four hours was increased from 416 to 782 grs., the increase consisting chiefly of creatine, creatinine, uroxanthin, and matter rich in sulphur. The quantity of urine passed daily was at the same time increased from sixteen to forty ounces. "Now, admitting that the elements of our frames resist chemical influences in the ratio of their vitality, it would follow that such constituents of our fibres as present the greatest departure from health are less highly vitalized, and thus yield the easiest to the chemical force exerted by the alkaline diuretics. On this account it is fair to presume that, when we cause an alkaline carbonate to circulate through the blood, it exerts an influence on the nascent elements of those matters less highly influenced by life, allied to that which they exert on dead matter, aids their resolution into substances allied to those produced out of the body, and actually causes the matter to assume so soluble a form as to allow of its ready excretion."

"I would earnestly (Dr. Bird observes) beg a careful and steady trial to the *depurating or chemical diuretics*, especially the salts of potass with vegetable acids, in the treatment of chronic affections, in which the exciting cause, or existing disease, depends upon the presence of some product of less vitality or imperfect organization. I fully believe that in many instances such matters will be often found to yield, whether they present themselves as albuminous deposits in glands, furuncular disease of cellular tissue, or incrustations on the skin, as in some of the squamous and tubercular cutaneous diseases. That they will succeed in increasing the waste of matter, is, from my observation, beyond all doubt; that the lowest vitalized matters will yield to the solvent the readiest is most probable, and that an important and powerful addition to our supply of therapeutic weapons is thus certain."—*Monthly Ret.*, Sept. 1848, from *Lond. Med. Gaz.*, Aug. 11, 1848.

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21. *Cod Liver Oil.*—The following account of the chief forms of disease in which

it has been found useful, is taken from an essay on the "History of the Fish-liver Oil," published in the *Gazette Médicale de Paris.*

Chronic rheumatism.—According to Alexander, Knood von Helmendstreit, Amelung, Brefeld, Basse, Fehr, Galcoma, Mall, Moeunig, Munzenthaler, Michaelis, &c., who have all published their own observations concerning the fish-liver oil in chronic rheumatism, this medicine possesses such an efficacy in this disease that it surpasses in their eyes all the other remedies, without excepting the most lauded anti-rheumatics.

This opinion of different physicians, who have all experimented by themselves, cannot be taxed with exaggeration, if it is considered that amongst these cases there are found numerous instances of rheumatic patients being cured, who, after many years of suffering, and usage of all sorts of remedies, having lost their strength and despairing of cure, were completely cured by the aid of the fish-liver oil.

Rheumatic sciatica.—The fish-liver oil did not prove less efficacious in this form of chronic rheumatism, which is generally distinguished by its obstinacy; this is verified by the observations of MM. Knood von Helmendstreit, Rust, Amelung, Munzenthaler, Settenger, and Spitter.

Scrofulous diathesis.—Although there are various observations published in support of the excellence of this oil for certain severe forms of confirmed scrofula, it requires something, candidly speaking, which will prove its efficacy in the scrofulous diathesis with certainty. The cause of this doubt ought not to be looked for in this circumstance, that the liver oil is less applicable in the scrofulous diathesis than in certain of the more severe forms of scrofula, but that the greater part of physicians are in the habit of only publishing their observations of the more severe cases. But if we consider that the scrofulous diathesis is the principle from which emanates, by the accession of aggravating circumstances, all the numerous and often dangerous forms of scrofula, and that the liver oil is in our eyes a true specific for the more severe forms of this affection, it is evident that this medicine is that which ought to counteract this principle with most certainty. Such is the opinion of M. Brefeld and Dr. Galama, who say that the liver oil is the most efficacious remedy for the scrofulous diathesis, and for no matter what form of confirmed scrofula.

Confirmed scrofula.—Amongst the facts relative to the use of the liver oil in some of the manifold forms in which confirmed scrofula is presented, the most remarkable are those which Drs. Brefeld and Roppe have made known, the result of which is that this medicine universally is fit for all forms and kinds of scrofula. The principal forms of scrofula in which it has succeeded are given below.

Swelling of the lymphatic glands.—Under this title we have only to do with the swelling of the superficial lymphatic glands, situated immediately under the skin, in the region of the throat, to the nape of the neck, armpits, or groins.

The fish-liver oil is considered a certain and infallible remedy in swellings of the lymphatic glands which appear oftenest, first under the form of hard unequal tumours, nearly immovable and insensible, but which afterwards, when inflammation has laid hold of the cellular tissue which surrounds them and the skin which covers them, become inflamed, and suppurate in their turn. The cure always requires a much longer time where these swellings are connected with a confirmed scrofulous diathesis. This also can be advantageously influenced by the external use of the oil by frictions on the painful and inflamed tumours; this way of employing the medicine is that which has prevailed and which is recommended by the greater number of practitioners in this form of scrofula. But if the fish-liver oil is efficacious in swelling of the lymphatic glands of a scrofulous origin, it is absolutely useless in swellings of the same glands which are the consequence of small-pox, measles, of scarlatina, or even those which are developed in the course of syphilis, or of a carcinomatous affection.

Scrofulous ulcers.—The effect of this medicine is quicker and more remarkable in scrofulous ulcers, with fungous and irregular borders, generally so difficult to cure, which arise either from suppurative inflammation of lymphatic glandular swellings, or from the dissolution of those indurated strumous tumours which are found so often in subjects of a scrofulous constitution, in all parts of the body indifferently. It has the same effect also in different traumatic lesions which so frequently

become the origin of ulcers in subjects of a full scrofulous habit. Dr. Brefeld relies greatly on the external use of this oil, with which he prepares an ointment which he applies to the ulcers by means of a pledget. In one case, notwithstanding, treated by the oil internally, the result was as favourable. The strumous tumours, which we have referred to above, and which ought to be distinguished from lymphatic glandular enlargements, are perfectly cured by the fish-liver oil, even after they have passed into the ulcerous state, provided that the oil be administered in proper time; it was the same in the case of the tumour being on the point of becoming an abscess. The tumours decreased during the internal and external administration of the medicine, and it seems they became dried up.

Chronic exanthemata.—The fish-liver oil has been proved equally efficacious in the chronic exanthemata which are developed under the influence of a scrofulous diathesis, whether they occupy parts of the body covered with hair or places which are destitute of it.

In this case, some say they have obtained the best results from the internal use of the oil, while others pretend, on the contrary, to have obtained as good results by the external use of the same remedy. The usage of it externally, tried for the first time with success by Dr. Guerard for scald head, is principally recommended by Dr. Brefeld, and who pretends, what is more, not to have obtained any good result from the internal use of the liver oil in the exanthematous form of scrofula.

The milky scurf, so often observed in ill-nursed children, in whom there have never before been observed any symptoms of scrofula, and which, according to Dr. Brefeld, forms the transition of true scrofulous exanthemata; the exanthemata which are observed on the long-haired skin of young children, and which often envelop the whole face; scald head, which is not uncommon to see last till the age of puberty; and, finally, the scrofulous exanthemata which come out on every other part of the body, were quickly cured, according to Dr. Brefeld, by the external use of the liver oil, and even after in some cases they had for a long time used the internal treatment in vain. Experience taught him that the use of the liver oil, either externally or internally, had no effect on malignant, hereditary, or contagious scald head, even when combined with oil of turpentine by the advice of Dr. Marteus; the same may be said of some psoriacal and syphilitic exanthemata.

Dr. Hauf reports a case of humid herpes causing an insupportable pruritus, which, after having resisted all sorts of remedies, was cured by the use of friction of fish-liver oil.

Rachitis.—The fish-liver oil is, without exception, the best remedy for rachitis, in all its stages, and under whatever form it presents itself; such is the nearly unanimous opinion of the German and Dutch physicians, who affirm with one accord that it is much superior to any of the so-called anti-rachitic remedies. According to Dr. Schmidt, who has most insisted on the advantages of this medicine in twenty-one rachitic patients which he had treated at the time when he made known his results, thirteen were cured, four were in process of being cured; as to the others, judging from the progress which they had made for the little time they were under treatment, a very favourable prognosis might be drawn.

In France, far from partaking of the enthusiasm of the German physicians for this medicine, they have kept on their guard, perhaps with an exaggerated distrust; its efficacy in rachitis has nevertheless appeared to some placed beyond doubt. We have said that M. Bretonneau, and M. Trousseau, by his example, had obtained good results. It is in these terms that Professor Trousseau expresses himself on this subject: "We have often obtained cures, the rapidity of which surpassed our expectation. Sometimes, after four days of treatment, the sharp pains which the children felt in all their limbs ceased; and the bones which could be bent, acquired, at the end of five days, a considerable solidity."

General conclusions.—Chemical researches have taught us that the fish-liver oil ought to be considered as a very compound medicine. Greasy neutral matter, bilious matter, iodine, phosphorus, each of them well known as possessing great therapeutic efficacy—also a certain number of organic elements, such as butyric acid, gaduine, and some others, the medical action of which is less known—finally, various inorganic salts, as the phosphate and sulphate of lime, chloride

of lime, phosphate and sulphate of magnesia, are the substances of which it is composed.

But it may be asked, to which of these components does the oil owe its special virtues? Is it to the iodine, fatty matters, phosphorus, or other principles?

If the diseases, for which the liver oil is administered with success, be duly reflected upon, it cannot escape any one that there are in each of them various indications to fulfil to obtain a cure. For the most part, there is debilitated digestion to be excited, nutrition to be regulated, secretions to be re-established, and the lymphatic system to be stimulated; while, on the other hand, the modifying of the organic nervous system is presented as one of the most important indications to be fulfilled. Neither the bilious matter nor the fatty matter, nor the iodine, nor any other principle, whatever it may be, taken alone, is capable of satisfying at the same time all these indications, and it is not to any of these substances in particular that the fish-liver oil owes its medicinal properties, and the faculty of fulfilling so different and so numerous indications. But it is by the union and co-operation of, if not all, at least the greater number of these substances.

In this state of things, the active principle of the fish-liver oil cannot be discussed in particular, like the active principle of cinchona; but attention ought to be paid, if not to all, at least to the principal elements of the oil, as each of them satisfying special indications which the diseases for which this medicine has been proved efficacious, present.

The medical researches having proved that the black fish-liver oil is more efficacious in rheumatism and scrofula than the other species, and the chemical researches having shown, on the other hand, differences, if not qualitative, at least quantitative, between the three kinds of oil examined, it follows that the principles that are in greater proportions in the black oil than in the other two kinds, ought to be considered as those which best fulfil the principal indications. Therefore it is not the neutral fatty matters, which are found in nearly equal quantities in the three species, nor the iodine, nor the phosphorus, nor the organic salts, which are found in greater quantity in the pale oils than in the black oil, which can be considered as more efficacious than the other principles for the cure of rheumatism and scrofula. It appears, then, that it is to the bilious matter and butyric acid, rather than the other principles, that the greater part of the therapeutic effect can be principally attributed, for they are the substances which are found in the greatest quantity in the variety of oil proved to be the most active.

As to the matter unknown up to this time, and which M. Jough first proved the existence of, in the product of the analysis of the different species of Gadus, and to which he applied the name of Gadine, it does not appear, on account of its insolubility, at least in the condition in which it was examined, to have a right to be considered as an active principle of the fish-liver oil. (*Gazette Médicale*, and *Dublin Med. Press.*)

—Dr. Bennett considers that the therapeutic action of cod-liver oil is due to its fatty composition, and its being perhaps more easily assimilated than other fats. He believes that in rheumatic and tubercular affections, the albuminous compounds are in excess, and the oily compounds deficient; that, therefore, the most rational treatment is to supply the deficient oily matters directly. He explains the failure of other oils to effect benefit, which might be expected, if the fatty matter is the active principle, upon the supposition that other oils, such as olive oil, are purgative. The author proceeds to state that he thinks cod-liver oil is destined, in the hands of the rational practitioner, "to be an important means of curing a class of diseases hitherto considered of the most dangerous and fatal character."

Speaking of the effect of this oil in phthisis, Dr. Bennett's testimony is greatly in its favour; and, in fact, it may now be satisfactorily demonstrated that there is no medicine or system of treatment which holds out so much encouragement in the management of consumptive cases. ("*On Cod Liver Oil*," *Edinburgh*, 1848; *and Monthly Journal, May*, 1848.)—*Ranking's Report on Pract. Med. in Abstract*, vol. vii.

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22. *On the Internal Use of Turpentine Oil in cases of Hemorrhage.* By L. Percy, M. D. (Proceedings of R. Med. Chirurg. Soc., June 27.)—The author, after noticing the fact that several writers—Adair, Nichol, Johnson, Warneck, Copland, Ashwell,

and Pereira—have spoken of the efficacy of the essential oil of turpentine in hemorrhagic diseases, observes that this remedy seems nevertheless to be little used by practitioners. In the cases in which he first made trial of it, hæmaturia of two years' standing, in an old man of eighty, was stopped in twenty-four hours by eight drops of oil of turpentine, and did not return. He has since used it in different cases of hemorrhage, and always with a favourable result. The cases in which its use is indicated are those of passive hemorrhage. It must not be employed in cases where there is an active determination of blood, and where the pulse is full. When the discharge of blood is the consequence of organic disease, as of disease of the uterus, or of tubercular disease of the lungs, the action of the remedy is not so efficacious; but the author has seen a case of scirrhus of the womb, in which the hemorrhage was for some time stopped by this remedy. The author has found the action of turpentine oil very rapid, an effect being manifest in a few hours, often after one small dose. In order better to ascertain its power, he used it alone, without having recourse to local astringents or cold applications, where he could do so without fear of endangering the life of the patient. He has used it most frequently in cases of menorrhagia and epistaxis; but he mentions, that it appears to him to be particularly applicable in the cases of hemorrhage attending typhus. He noticed the fact that turpentine exerts different actions on the body according as it is taken in large or small doses, being more readily absorbed in the latter case; and he remarks, that as its beneficial action in cases of hemorrhage must depend on its being absorbed, the inference would be drawn, that the doses in which it is given in such cases ought to be small. His experience confirms this conclusion. He has always found a dose of from eight to thirty drops sufficient. The best vehicle for it is almond emulsion, with a little gum Arabic. When there is pain in the abdomen, a few drops of laudanum may be added.—*Ibid.*

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23. *Carbonate of Ammonia in Scarlet Fever.*—The use of carbonate of ammonia in scarlatina was first advocated by M. Strahl, in Germany, and afterwards resorted to in France; in which latter country it is still highly esteemed and used by M. Baudelocque in the Hôpital des Enfants. This physician has not only used it in mild cases, but also in the malignant form of the disease, and where the eruption has receded, and in the consecutive dropsy of scarlatina. He sums up by stating that he has derived great advantage from its use in irregular scarlatina with cerebral disorder and depressed powers; in scarlatina attended with the production of false membranes on different mucous surfaces; in hemorrhagic scarlatina; and in the dropsy of scarlatina, whether confined to the cellular tissue or extended to the serous sacs. He has administered it in the form of mixture, simple or aromatized, and in gradually augmented doses.

There can be but little doubt of the efficacy of ammonia in the eruptive and also in typhoid fevers, acting as it does as a general stimulus to the system, and as a special one to the cutaneous and mucous surfaces; and indeed, it has been considerably employed in this country in scarlatina, but not so much in the character of a specific as it appears to be viewed by M. Baudelocque, as on account of its general and special action above indicated—an action particularly required where a debilitating poison, like scarlatina, is preying upon the system. The value of ammonia in the dropsy following scarlatina has been less appreciated, but it is certainly deserving of trial; for, *à priori*, we may anticipate benefit from this medicine by reason of its stimulant action upon the capillary system at large, whereby it influences nutrition at large, and particularly that of the mucous membranes. Thus it may restore the capillary system of the kidneys to its normal condition, removing the congestion present, and unloading the uriniferous tubes of their impacted epithelial particles, and so rendering the renal secretion natural and more active, relieve the systemic dropsy.—*Lancet*, Aug. 26, 1848.

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24. *On the Utility of Trisnitrate of Bismuth in the Diarrhœa accompanying Phthisis.* By Theophilus Thompson, M. D. (Proceedings of R. Med. and Chirurg. Soc., June 27.)—The author considers the trisnitrate of bismuth to surpass in efficacy and safety our most approved remedies for this complaint. He has taken every opportunity, during the last twelve months, of testing its powers, and has

preserved notes of twenty-one of the cases in which it was administered. Of these, eighteen were phthisis in various stages of progress, and three, bronchitis. In fifteen of the patients the diarrhœa was entirely removed; in four, transient benefit was experienced; and the remedy proved useless only in two instances. The dose administered was about five grains three or four times daily, usually combined with a little magnesia and gum Arabic. Dr. Thompson has referred to various authors who have written respecting the properties of bismuth, but has not been able to collect from them any evidence of its powers in the phthisical variety of diarrhœa, but he entertains a strong conviction of its peculiar appropriateness to this affection, and has obtained important conformation of his experience in a recent communication from Dr. Lombard, of Geneva.—*Lond. Med. Gaz.*, July 14, 1848.

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25. *Case of Epilepsy cured by Sulphate of Zinc.*—Mr. Watson, of Dumfriesshire, narrates (*Lancet*, July 22, 1848), the following case:—

"J. H——, aged thirty-one, and unmarried, has been subject to epilepsy since she attained the age of fourteen years. She first menstruated about that time, and the epileptic fits returned regularly every six weeks afterwards, except once, when, owing perhaps to her having received a severe burn on the chest and neck from falling on the fire during one of the attacks, the succeeding interval was three months. She is tall, and generally healthy; menstruates every four weeks; her appetite is good; her bowels regular; she has no aura, nor is she apprised of the approach of the fits in any way whatever. She is generally engaged in household matters, and occasionally employed out of doors. Previous to 1846, several medicines had been tried for the purpose of removing or alleviating the complaint, and about the commencement of that year sulphate of zinc was administered. At first, the dose was two grains daily in solution, and for a few weeks it appeared to have little effect, but in process of time the intervals became longer, and on the 16th of December, 1846, when she had a return of the paroxysm, the interval had extended to sixteen weeks. I then increased the dose to three grains daily, and she remained perfectly well until the middle of May, 1847, when she had another attack. At the end of June she had a second, and about the middle of September a third, in consequence of which I augmented the quantity to four grains daily; since that time she has had no return of the complaint. In this instance, at least, the use of zinc has been attended with the most beneficial effects, it having not merely lessened the excitability of the system, and broken the habit of periodicity, but actually rendered the patient entirely free from the malady for nearly forty weeks. Nor can the improvement experienced be attributed to any other cause, such as free exposure to the open air, exercise, ablution, regimen, &c., as no greater attention was paid to these things during the use of the medicine than had been done previously.

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26. *Hypertrophy of the Follicles of the Pharynx.*—M. Chomel has carefully investigated this pathological condition of the pharynx, and has given it the name of *follicular angina of the pharynx*. This affection consists in an abnormal development or hypertrophy of the follicles of the pharynx, of the pillars of the fauces, and of the uvula. It may exist at any age, but is more frequent between 15 and 30. It is much more frequent in men than in women, in the proportion of 17 to 5. Accompanying this lesion, M. Chomel noticed a peculiar structural condition of the mouth and nose,—the nasal fossæ being constricted, as also the anterior and posterior nares, and the upper lip short, exposing the teeth; a condition necessarily associated with breathing through the mouth open, and which may be a cause of the enlarged follicles, by its rendering secretion more active in them. This affection often coincides with anterior herpetic eruptions, and many patients are troubled with acne. Singers are subject to it, together with a thickening and redness of the mucous membrane.

In most cases, the disease advances slowly; when arrived at a certain stage it causes great inconvenience. It frequently commences with a slight cough, without expectoration, and is generally unattended to. When the secretion becomes abundant, then it becomes troublesome. The affection is marked by a feeling of constriction in the fauces; the patient exerts himself to expel masses of mucus,

which are found over the entrance of the air-passages; he desires to drink a little water to allay the uneasiness or pain, which it will effect for a few moments. In slight cases, on depressing the tongue with a spoon, from two to ten little red points, of the size of a millet-seed and round, may be seen disseminated over the reddened mucous membrane. In a more advanced stage, these round points become discoid, or ovoid, and glistening; and in the most intense degree, we see the diseased parts projecting in the form of pillars, or projecting columns, from the sides; and lastly, these transverse folds may so entirely occupy the pharyngeal mucous membrane as to leave but a few small isolated patches of it in a normal state. The alteration of the follicles, however, is not always in relation with the intensity of the symptoms; for the latter depends much on the susceptibility or irritability of the patient.

It is not uncommon to see the follicles covered over by a thick, adhesive mucus, which must be removed before their condition is brought into view. The progress of this affection is essentially chronic; it will often spontaneously disappear; at other times will yield to very simple treatment; but sometimes also is very refractory, resisting all modes of cure. Speaking and singing aggravate the malady.

The cough attending it is guttural; it does not come from the chest, nor do the pellets of mucus, which are expelled in small quantities. The latter are small globular masses, of the size of a small pea, very adhesive, and semi-transparent; in the morning they are sometimes strewed with minute grayish-black points, consisting of inhaled carbon. The voice is generally somewhat altered; and as a similar change occurs in phthisis, some alarm may be created; but then the absence of the peculiar features of the latter disease will remove all disquietude on that score. The voice becomes soon worn out, and reading or speaking aloud soon involves the necessity of ceasing. Sometimes, owing to a piece of tenacious mucus, the patient is obliged to wait before he can articulate the smallest word. Singers perceive they have lost one or two notes, that the clearness of their voice is lost, as also its sweetness of tone.

The diagnosis presents no difficulty, unless the susceptibility of the patient be so great as to preclude examination, or render it very difficult, when care must be taken not to confound this condition of the follicles with the common normal hypertrophy of the mucous membrane and follicles, which is often present in advocates and singers, and which demands no treatment.

Cauterization is the most effectual and ready mode of treatment, but it is sometimes difficult to limit. Nitrate of silver, or dilute nitric acid on a sponge, may be used for the purpose. Caustics, however, should not be used in the first instance; gargles of borax and alum should be previously tried, and will in most cases relieve, if not permanently cure. The sulphurous waters of the Pyrenees and of Enghien, particularly the latter, have often proved useful—one or two glasses being used in a morning, gargling and then gradually swallowing. In summer, douches to the neck may be used as adjuncts. Reading aloud must be avoided, as also much talking, and the diet must be regulated. Acrid and irritating aliments must be refused, and care should be taken to masticate thoroughly parts of hard substances, as crust, which may mechanically irritate the pharynx.—*Lancet*, Sept. 2d, 1848.

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27. *Pharyngeal Pouches.* By Mr. Dendy.—Mr. G. S., after some affection of the tonsils and uvula, eight years ago, placed a pepper corn in his mouth, which suddenly slipped backwards and lodged in his throat. It remained there about a week, causing great irritation, but was eventually dislodged. He has ever since been aware of the temporary lodgment of foreign bodies in the same situation, but has not felt anxiety upon the subject. Gradually these lodgments seemed to increase, and large bodies became arrested in their course, the secretion of saliva becoming profuse. About two years since the uvula was excised, by which the complaint was much aggravated.

At the present time the patient is compelled to fill the pharyngeal pouch with soft solids, to the extent of two ounces, before he can get any food to pass into the stomach. He can at any time eject the contents of the bag.

In a second case, in the person of a bishop, now deceased, the affection came on imperceptibly, and could not be traced to any particular cause. The contents

were often spasmodically expelled, and the breathing was occasionally interfered with.

Mr. Dendy, the narrator of these cases, appends the following remarks:—

As to the anatomy of these curious cases:—The pouch, I believe, usually dips down between the œsophagus and the vertebræ, occupying, in fact, the place of the œsophagus, which is pressed against the trachea, and suffers attenuation of its coats from this compression. It is also strained or puckered by various degrees of traction, constantly increased, of course, by gravitation and the weight of the ingesta. This at length forms a valvular communication between the pouch and the œsophageal canal immediately below the cricoid cartilage in front, and opposite the fifth or sixth cervical vertebra behind, thus not only impeding or entirely obstructing deglutition, but even preventing the introduction of a bougie or hollow tube, through which aliment might be admitted into the stomach, unless the relative position of the cavities be distinctly understood.

Now, what are the especial tissues which constitute the pouch?

May we not place the cases to which I have referred in the same category with those diverticula or pouchings, not only of the intestines, but of those other tubes which are frequently submitted to the influence of contraction and dilatation.

The lodgment of foreign or indigestible bodies will sometimes pouch the stomach itself. Amongst other persons, Dr. Baillie saw a capacious pouch thus and therein formed, which contained five halfpennies.

The cells of the colon are often immensely distended by scybalæ, especially in young women, although apparent regularity of defecation may have averted the slightest suspicion of such a state.

Although the etiology may differ, we may adduce, as analogies, those dilatations found above the contractions of tubes, whether by spasm or thickening of coats. We may refer to the bulging abscess and infiltration behind urethral strictures; to the bagging of the bowel, when its calibre is diminished or contracted; and I may express my belief, that many cases which have been considered to be merely stricture, are indeed closely allied to those with the recital of which I commenced my observations.

And does the bag consist, or not, of the entire pharyngeal tissues?

I believe that it may consist of thickened mucous membrane only, and that continued and progressive pressure (as in the lodgment of a body in the sacculus formed by the rather sudden contraction of the pharynx, into the œsophageal tube, increased by the effort of severe coughing, especially when combined with pulmonary disorder, as in the case of my present patient and the bishop), may have actually split or separated the muscular fibres of the canal, thus constituting a hernia of the mucous membrane analogous to the formation of true aneurism from muscular effort, or, perhaps, more nearly allied to those cases of double bladder, one of which is recorded in the last volume of the *Transactions* of the Medical Society. The coats of gastric pouches are usually much attenuated, and that not from inflammation or ulceration, but from mere mechanical pressure.

Now, on the assumption that many of these interesting cases may have been mistaken for œsophageal stricture—a simple contraction of canal—we may confidently point to one probable cause of difficulty or failure of the introduction of the bougie, in consequence of the *valvular orifice* (for such, indeed, it may be termed), of the œsophagus, and the constant slipping of the bougie into an artificial cul-de-sac. A point in practice may hence be adduced. In cases of difficulty, it would be well to place the patient nearly on his back, so that the pouch may rest on the spine, and then to press the bougie forwards on the trachea, at the same time uplifting the trachea itself. If the existence of a pouch be determined, the same plan should be adopted, and this immediately after the emptying of the pouch.

Regarding the permanent relief or obliteration of these bags, I cannot yet speak practically. I contemplate, however, the employment of a canula and sponge, slightly wet with a very strong solution of nitrate of silver, if the symptoms of my present case should, by their aggravation, warrant this proceeding. At the same time, I should impart nutrition as much as possible, or altogether, through the elastic tube introduced into the stomach, so as to close the mouth of the pouch, and put it, as it were, out of office.

I believe that relief might be insured on one or other of these principles—either the shrinking or contraction of the bag, by its being kept empty and compressed, or by the adhesion of its sides, so as to produce complete obliteration; for although the mucous membrane is not so prone to adhesion as the serous tissue, we have very sufficient analogies to warrant that it might ensue in such a case.—*Prov. Med. and Surgical Journal*, Aug. 9, 1848.

28. *Practical Remarks on Croup.* By Dr. H. Zeroni.—The most ordinary form of croup is *Congestive Croup.* This form generally occurs at a time when there is a tendency in the weather to induce catarrhal affections, manifesting itself suddenly, generally in the night, and without any precursory symptoms: with the exception, perhaps, occasionally of a slight cold in the head. In this form of the disease, children wake from a quiet sleep with a sharply barking kind of interrupted cough, raise themselves in bed, and begin to cry in apparent distress, a piping hissing inspiration being occasionally heard, as well as in their coughing. The countenance is often flushed and turgescent, but the respiration is not hurried, and but little febrile excitement is perceived in the pulse. When the attack subsides, the child again falls asleep, and rests quietly till the morning; occasionally, however, the attack recurs, respiration becomes more noisy, rattling and hissing, and the child either vomits, or simply makes an effort to do so. This form of the disease requires little more than careful nursing for its cure; the child should be kept in bed, be made to drink copiously of warm drinks, partake freely of some oily emulsion, and have a sponge steeped in hot water laid on the neck. If, however, a hissing hurried respiration causes apprehension of a recurrence of the attack, the most effectual means is to give an emetic, continuing its use until the child has vomited several times. (This form of the disease appears to be induced by an hereditary and acquired predisposition.) To young children during the first year, Dr. Zeroni gives ½ gr. cupr. sulph. every quarter of an hour.

The second form is *Inflammatory Laryngeal Croup.* This is far more serious in its nature, and *never* occurs without premonitory symptoms, or where it may not be referred to the action of some injurious influences. It may have been induced by the pre-occurrence of the milder form, or owing to exposure to bad weather immediately after recovery from a former attack. The characteristic symptoms of this second form of croup are as follows: Broken, rough, whistling cough; the inspiration is quick, and has a sharp sound; the child is restless, moves the hands, bringing them frequently to the head and neck. The face is hot, red, or purple, the neck swollen, whilst the pulsations of the heart and arteries are rapid. When the attack subsides, the child becomes strikingly animated, enters into his customary sports, and evinces no desire to lie down or to go to sleep. Respiration after the first attack, and even after several attacks, is quiet and natural; it becomes, however, gradually more hurried and noisy, and a faint rattling is heard, which assumes by degrees a metallic sound. Hoarseness increases, and the voice becomes low and whistling. The attacks come on more frequently, and the child is more restless and irritable during the periods of intermission, whilst the pulse grows fainter and fainter. This uneasiness, however, ceases. The child dozes continually, lies on its back, with its head thrown back and pressed into the pillow; the throat protrudes, the countenance is drawn, pale, and swollen, somewhat of a bluish or yellowish tinge. The eyes are sunk, and half shut; whatever is handed to the child is impatiently pushed aside, and nothing can induce it to drink. The respiration is loud and rattling, all the muscles of the neck act convulsively, the pulse is frequent and small. The child dies either in this state of sopor, with the symptoms of paralysis, or in the midst of convulsions induced by another choking attack of cough.

This form of disease requires prompt and energetic treatment. No time should be lost in abstracting blood, and no apparent amelioration of the symptoms should hinder the frequent application of leeches, in proportion to the age, until the child begins to evince an appearance of exhaustion from loss of blood. A second important means is cupr. sulph.; from 3 to 4 grains of which should at first be given in order to induce vomiting, and the dose should be then reduced to ⅛ or ¼ of a grain, every half hour, or hour, until the disease assumes a favourable turn. Dr

Zeroni also speaks of the invaluable aid he has derived in some cases of *this* form of croup, but not in any other, from a combination of musk and opium.

We now proceed to notice the third form of croup.

Inflammatory Tracheal Croup.—This is likewise attended by premonitory symptoms, and induced by pre-existing or extremely injurious influences. It generally occurs in the months of February and March. Children catch cold, have a dry, somewhat rough, cough, which being often disregarded, they are frequently suffered to expose themselves to cold and damp; the hoarseness and cough gradually increase, but this state often continues for upwards of a week before the occurrence of the fit of choking, and before medical advice is sought. After the first attack, the child is often cheerful and even at times extremely merry. The voice is quite gone, the respiration somewhat hurried, and more or less rattling; the cough not frequent, short, rough, unattended by a whistling inspiration, no expectoration, or if any, merely a white frothy mucus interspersed with a few streaks of blood; the pulse quick, the skin warm, and the urine natural. If the little patients are able to speak, they complain of pain in the neck and the middle of the chest. By degrees the choking fits become more frequent, the respiration more hurried and difficult, and the tone accompanying it rougher and more croaking. Extreme hilarity and the most remarkable movements alternate with excessive lassitude, during which the child sinks down exhausted, falls asleep, exhibiting the most marked disinclination to be spoken to or touched. The cough becomes a noiseless suppressed expulsion of air, the attacks are accompanied by a violent noisy rattling sound, the muscles of the neck become powerfully convulsed, and the head is thrown far back. The pulse is small and quick, the skin drawn, the muscles extremely relapsed, the face swelled and puffy, the lips blue. The child dies in a state of sopor, as if from asphyxia. This form is more fatal to children under two years of age, than to those who are older. It is met with in children of six, or even occasionally, nine years of age.

The application of leeches is of the greatest importance, since on this depends the result of the whole treatment. If a sufficient number of leeches be early applied to the neck and chest, we may regard the termination of the disease as probably favourable. Emetics do not appear to have much influence here, although they occasionally relieve the respiration.

The fourth form, which is designated by Dr. Zeroni as *Aphthous Croup*, is the most dangerous, but fortunately also the most uncommon; it has only been observed in autumn, during a continuance of stormy, cold, and rainy weather. It never occurs unattended by premonitory symptoms. The child is somewhat excited, occasionally flushed, and appearing from time to time to have transient febrile symptoms. As, however, it is cheerful, sleeps well, and has a good appetite, these symptoms are too often neglected, and the child is suffered to go out in the damp or cold, until at last it complains of pain on swallowing. On examining the throat, the tonsils are found to be somewhat swollen, reddish, and covered here and there by a yellowish-white puriform investment. The submaxillary glands are swollen. The child continues, however, cheerful, and there is scarcely a trace of fever. The aphthous streaks or points now extend gradually more and more, approaching each other. On removing part of this investment from the tonsils, we find that the subjacent membrane is of a brownish-red colour, but not dry. Deglutition becomes more painful, but still there is no fever, and it is not till the fourth or fifth day that the symptoms assume a more serious character. Hoarseness comes on, a low singular kind of cough is heard, and occasional oppressive sensations are experienced. The disease soon runs its fatal course, and the child, after several days of indescribable suffering, dies in a state of sopor, under circumstances similar to those of which we have already spoken. A prophylactic mode of treatment seems the only one that is of avail in this form of croup; and, considering the nature of the disease, too much stress cannot be laid on those means of prevention under the control of parents—such as prompt attention to any symptoms of indisposition manifested by young children, and care not to expose them to the open air until all morbid symptoms are entirely removed; since Dr. Zeroni mentions that where once this aphthous affection of the tonsils was established, he never yet succeeded in saving the child; leeches, tartar-emetic, and calomel being all without avail. The only means which he considers at all likely to produce a

favourable result, are the external application of caustics, as suggested by Aretæus. Dr. Zeroni considers that this aphthous affection of the tonsils may occur in adults, although in their case he has never observed a fatal result. The disease may manifest itself alone, or conjointly with febrile diseases; but he has not found that in this latter case the local affection rendered any change necessary in the mode of treatment for the main disease.

The fifth form of croup, observed by Dr. Zeroni, is *Suppurative Croup.* This is invariably found to have been preceded by a fully developed catarrh, and usually occurs at the close of winter, and the beginning of spring. It begins with more or less fever, restlessness, insomnia; the cough that was previously loose, becomes dry, rough, and barking, without being attended with a whistling inspiration, or a metallic sound. The cough comes on by fits, during which the child tries to sit up, bends the head forward, and puts its hands to its ears, tongue or mouth. The attacks are not attended by choking, but cause distress by the continuance of the short broken cough. The child is hoarse from the beginning of the disease, but loses his voice entirely after a time; cases, however, occur, in which the cough is at first loose, and the voice clear, but where there is much fever at the beginning of the disease, and even strongly marked delirium occurring at night. Fever gradually increases, the child sleeps almost continually, actual suffocative fits at length come on, the respiration becomes hurried, gasping, and rattling. The child is pale and appears swollen; and finally torpor supervenes, with an extremely quick pulse and profuse perspiration, and the child not unfrequently dies in convulsions.

If the disease is neglected, it generally proves fatal to infants and very young children from the ninth to the eleventh day. In adults, it may be prolonged to the fourteenth or eighteenth day; in the latter case the attacks are much more violent. The suffocative attacks which generally supervene on the seventh day are most distressing; the child starts up with violence, tears, scratches, and bites everything it can lay hold of, often tearing its hair and biting its hands; it appears to be in most fearful struggle, and in the height of its agony, the hoarseness suddenly disappears, and it cries in a loud voice for help; the short cough becomes looser, and mucus is expectorated, the fever abates, and finally the dreadful sufferings of the little patient terminate in symptoms of paralysis.

This form, like the others, demands a prompt and early application of leeches, which must be repeated with a frequency proportionate to the age of the child and the violence of the fever; it is almost the only thing to which recourse can be had, but as soon as the cough becomes somewhat less distressing, and the fever abates, a favourable termination of the disease may be hoped for; occasionally, however, much service is derived from cupr. sulph., given in sufficient doses to produce vomiting; this must be done when the cough and fever have abated, and the suffocative attacks have begun. The above forms of croup are only met with in children, and seldom after their sixth year. Dr. Zeroni scarcely attaches any faith to the opinion entertained by many, of the fatal nature of croup in adults. He says that he certainly has observed all the symptoms of croup most strikingly manifested in women, but these were found to depend on uterine derangement, and yielded to a mode of treatment adopted with reference to diseases of the latter kind; and he considers that where adults have sunk under croupous symptoms, they must be ascribed rather to œdema glottidis than to genuine croup.—*Brit. and For. Med. Chir. Rev.*, July 1848, from *Henle u. Pfeuffer's Zeitschrift für. rat. Med.*, 1847.

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29. *On Diabetes.* By R. B. Todd, M. D.—The *Prov. Med. and Surg. Journal* (June 28) contains an interesting lecture on diabetes by Dr. Todd, with the particulars of two cases of the disease treated in King's College Hospital. The following are the inferences which Dr. Todd draws from these two cases:—

1. The first of these is, that the azotized dietetic plan of treatment is efficacious; that the patients were more benefited by it than by any other means; and that the admixture of a small quantity of vegetable food did not very materially interfere with its favourable operation.

2. The evidence furnished by these cases is opposed to Bouchardat's theory, that the sugar is wholly derived from amylaceous food, and is little, if anything, short of a refutation of it. Take, for instance, Hardy's case: when he was put into the solitary ward, he was deprived of all amylaceous food, and yet he still

continued passing from two to three ounces of sugar daily. But it may be said that this was furnished by the greens, which he then took—this, however, could not be the case, for they would hardly weigh as much as the sugar that was evacuated; but there was one period in which he did not even take greens; he took no vegetable food whatever, but lived entirely on meat, and that deprived of fat as much as possible. This period was from the 15th to the 24th of December; notwithstanding, however, this total exclusion of all vegetable matters from his diet for nine days, he evacuated in that time from twenty-five to thirty ounces of sugar, and his own bodily weight was all the while increasing. Whence, I would ask, could all this sugar have been obtained? The same circumstances occurred in Bowles's case though not, perhaps, to so striking a degree.

3. The great increase of the power of the stomach is truly remarkable; these men found no difficulty in digesting four pounds of meat, besides several eggs, in one day, a task twice as great as any ordinary stomach could perform. The highly developed condition of the mucous membrane of the stomach was, no doubt, associated with this exalted power of digestion, and probably exists in all these cases.

4. The fact that sugar could not be detected in the substance of the kidney, goes to show that it is not there secreted, that it does not enter into any organic connection with the elements of the kidney, but merely percolates in solution through it; hence the disease of the kidney must be secondary. The sugar doubtless reaches the kidney in solution in the blood, and there acts upon that organ as a diuretic, passing possibly dissolved in the water that filters through the Malpighian bodies, and not being attracted from the blood through the walls of the tubes.

5. The comparative conditions of the epithelium of the liver and kidneys are very singular, and I am not aware that a similar observation has been previously made; it would tend to show with what avidity all carbonaceous matters, fat as well as sugar, are directed to the kidney, in this disease. Most probably, to some extent, the fat of the liver goes, in common with fat from other parts of the body, to the formation of sugar; but this does not account for the deposition of fat in the epithelium of the kidneys.

Lastly, these cases justify the conclusion that this disease is essentially one of the primary organs of digestion, whereby all substances readily convertible into sugar are quickly so converted; and that sugar is not digested, but passes into the blood unchanged, whence it is rapidly eliminated by the kidneys. We must not forget that this was, in fact, the view taken of this disease by Dr. Rollo, an English physician, who was the first to suggest the plan of treatment, which all experience proves to be the most beneficial.

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30. *Statistical Researches on Chorea.*—Dr. Easelmann, after collecting reports of cases from different authors, and adding to them his own, finds that females are much more prone to chorea than males, in the proportion of 73 to 27 in 100 cases. Up to the age of 11, of 33 patients, 22 were girls, 11 boys; from 11 to 15 years of age, of 45 cases, 34 were in females, and but 11 in males; above 15 years old, of 22 patients, 17 were women, and only five men.

Thus, whilst the proportion of males remains the same before and after the age of 10, the proportion of females increases remarkably from the 10th to the 16th years—a fact which leads to the conviction that the period of puberty exercises a great influence on the development of the disease.

Respecting the causes of chorea, fright is the most common. Thus, in the 100 cases, 31 were referable to this cause. Next in the category, rheumatism appears to be a not uncommon cause, eight cases in 100 being traced to it. In 42 instances, the exciting cause could not be arrived at.

The interval elapsing between the operation of the exciting cause and the onset of the morbid phenomena, was not noted in 74 cases. In eight, the chorea manifested itself immediately, in 13, after a week, and in five, after two weeks or more.

Of the success of remedies used, purgatives alone, or combined with diet, were successful in six cases, and of benefit in another; two cures are referred to rhubarb administered in port wine; arsenic was employed in seven cases, in two with success; iron in 29, effecting a cure in 19, and benefiting in two cases; zinc,

in the form of the sulphate chiefly, effected a cure in 45, and improved the state in two others. Quinine, gentian, chamomile, and nux vomica were tried in nine instances, and cured in three. Antiphlogistics were used with three patients, curing two, and relieving a third. Electricity has proved of great service in old and rebellious cases, chiefly in young women in whom the chorea had an hysterical character; and in children, where the disease was not dependent on irritation; nine cases of cure out of 15 are attributed to this agent, but in five of those nine cases oxide of zinc and carbonate of iron were conjoined in the treatment. Affusion has also succeeded, but not to such an extent as electricity.

In fine, of the 100 cases, 80 were cured, seven nearly cured, ten relieved more or less, and three died. The duration of treatment was for three weeks in 24 cases, from three to six weeks in 40, from six to eight weeks in 23 cases, and from two to three months in 13 other instances.—*Lancet*, July 15, 1848.

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31. *Epidemics of Fever.*—The past year has been signalized by the almost universal occurrence of outbreaks of fever, varying in intensity, but, for the most part, exhibiting a malignity which has been followed by unprecedented fatality. Independently of the interest which attaches to these fearful visitations as matter of scientific reflection, the recent epidemic may claim a deeper hold upon our minds, of another character, arising from the awful ravages committed among our own ranks, and the consequent sacrifice of every worldly comfort to hundreds of those helpless ones in whom we ought all to take a personal interest.

Histories have been furnished of several of these epidemics, or, rather, of the same epidemic as it appeared in different localities, of the principal of which we purpose to give a brief analysis.

Dr. Paxton, (*Prov. Med. and Surg. Journal*, Nov. 3, 1847,) of Rugby, describes fever as it appeared in a mild form in that neighbourhood. It is stated by him to have been generally preceded by diarrhœa, and to have rarely been fully developed when that symptom was judiciously treated. The febrile symptoms are said to have declared themselves under three degrees, and were recognized as follows:

The countenance expressed stupefaction; chills followed by heat occurred every half hour, with headache, quick pulse, furred tongue, epigastric pain, loaded urine, &c. These were the symptoms of the milder form, and soon subsided. If, however, the noxious influence had been more decided in its effects, the second degree of fever was observed. This differed from the first chiefly by its greater intensity. The patient, at the early stage, had a deep flush on the cheek, alternating with paleness; dry skin; thirst; thick, drab-coloured secretion covered two-thirds of the tongue; the pulse rapid, i. e. from 110 to 130; urine turbid. Uniformly there was a certain amount of cerebral disturbance, indicated by moaning or crying out, with sudden sharp pains. A restlessness and delirium existed in most cases, and led one to suspect meningitis. After the subsidence of the latter symptoms, marked pervigilium was observed, which was followed by unusual torpor.

The third degree exhibited the common characteristics of typhus.

In referring to the treatment of this epidemic, Dr. Paxton takes occasion to criticise the opinion that wine and a cordial plan of treatment are necessary in fever, and illustrates his position by the detail of cases in which mischief was supposed to have arisen from this practice. He proceeds to state, that the successful treatment of this epidemic depended on the strictest attention to regimen; errors in diet were fatal. All kinds of stimuli had the effect of increasing arterial action, congestions, and cerebral disturbance. It was only in the stage of *perfect subsidence* of the malady, that wine could be taken with impunity. He remarks that he had often to regret the permission he had given to use wine at too early a period. The most mild species of nutriment were the best for the patient. Time after time has he known a generous diet, such as beef-tea and wine, to derange the viscera, and to have a direct tendency to excite organs already too much excited by febrile phenomena, and the consequences were invariably a correspondent depression of the vital powers. The principle which suggests wine, and the highest nutriment in low fever, in theory is, he says, plausible enough. "To oppose what was esteemed strength to weakness, is a theory which readily gains an ascendency in the minds of those who are ignorant of the management of

diseases. They are haunted by the single perception of *debility;* but the exhibition of wine, to counteract the debility, only involved the patient in additional dangers. At the advanced stage of fever, wine is the medicinal extreme unction for the patient's dismissal. In the earlier stages, it may be symbolized by the golden cup filled with abominations." There could be no compromise, he observes, between wine and the Rugby fever. It was not long before he found, that either the nature of the fever, or the peculiar habit of persons in this locality, would not allow of the administration of stimulants without decreasing the chances of recovery.

These remarks respecting the use of wine in fever, are certainly not in accordance with the opinions of the best authorities, and differ widely from the views expressed in the following communication by Mr. Bree, of Stowmarket.

Mr. Bree gives the history of an epidemic fever as it was witnessed in the parish of Finbourgh, in Suffolk, the account of which embraces points of great interest, more especially as respects the disputed point of contagion, the operation of which on the cases in question he establishes beyond the possibility of doubt. In the treatment of the disease he exhibits a full acquaintance with what we believe to be the most satisfactory therapeutics of fever at present known. The indications he kept in view were:

1st. To obviate *the effects* of local congestion, and of what he believes to be in fever *altered* blood; *which effects*, again, he believes we see in or *about* the capillary system, or in ulceration of Peyer's glands, &c.; and,

2d. To prevent his patients from dying by asthenia; to keep them, in fact, alive.

The first indication he attempted to fulfil by the use of the pulvis sodæ comp. of Guy's Hospital, a most useful medicine in these cases. It is composed of carbonate of soda, compound chalk powder, and calomel; sixteen grains contain one grain of calomel. Of this he gave from five to twelve grains every four hours, with or without a solution of the carbonates of soda and ammonia.

The second indication he endeavoured to fulfil by the administration of port wine, with or without brandy, in large quantities.

In the cases he has detailed there were frequently abdominal and thoracic complications; in one case there was decided pneumonia, but he did not on this account omit the wine, though he pushed on the mercury. He was equally regardless of delirium, which is, probably, always an effect of innervation in these cases; and of the dry tongue. Whenever he found unequivocal indications of debility, as evidenced by a quick, thready, irritable pulse; *trembling;* sordes about the mouth and teeth, &c., he invariably gave wine. The result of the cases related fully bears out the propriety of the practice.—(*Prov. Medical and Surg. Journal*, April 15, 1848.)

The fever which has recently prevailed in and about Kilkenny has been described by Dr. Lalor (*Dublin Quarterly Journal*, Feb. 1848), under the name of "gastro-enteric fever," derived from the prominence of gastric and intestinal symptoms. The invasion of this form of fever was sudden, setting in, in general, with rigors, followed by delirium or dullness of intellect, vomiting, diarrhœa, pains in the joints, &c. After the continuance of these symptoms for six or eight days, the fever usually subsided. The relapses, which were frequent and often fatal, assumed one of four forms:

1. Pyrexia attended with severe pains, similar to rheumatism, often terminating favourably in from three to seven days. 2. Pyrexia, with distressing nausea, and vomiting of a grass-green fluid; prostration; cold, clammy skin, &c. 3. A combination of the two preceding forms. 4. A species of protracted fever with nausea, irregular bowels, and variable pulse; termination usually favourable.

In 1845, a purpuric eruption began to be a concomitant of the fever. In the spring of 1846, this combination became more general, the fever at the same time putting on a more typhoid type with diarrhœa, general œdema, and gangrene. The eruption generally appeared first on the upper part of the chest, subsequently on the abdomen and extremities, seldom on the face. In bad cases there were large distinct bullæ filled with a bloody serum. The gangrene usually appeared in the mouth, the pudenda, or anus; bad sores and gangrene of the extremities were rare.

The treatment followed by Dr. Lalor in this fever was, in the first instance, expectant. In collapse, external warmth and stimulants were employed. Blisters were found useful for the præcordial pains, but leeches and depressing diaphoretics were ill borne. In the relapses, a stimulating treatment was imperatively called for.

The post-mortem appearances in fatal cases of this fever were chiefly remarkable in being associated with or produced by purpurous extravasations, similar to those on the skin. These were found on the peritoneum, pleura, mucous membrane of the stomach, intestines, and bladder. Apoplectic effusions were also found on the lungs and in the substance of the muscles. On the mucous surfaces these blotches terminated in ulceration, which were of two kinds, one small and circular, with a disposition to granulate, the other sloughy, with fungous granulations similar to the spongy sanies of scorbutus. The liver was of normal size, mottled and friable; the spleen was generally enlarged; the kidneys sometimes presented purpuric spots; the heart's substance generally softened.

In alluding to the causes of this epidemic, Dr. Lalor hesitates to attribute it entirely to the effects of famine; but he admits that the purpuric or scorbutic character was associated from the date of the failure of the potato crop, and increased as destitution advanced. The fever appeared to be decidedly contagious.

Mr. Bottomley, of Croydon, has also published an account of fever as it appeared among the Irish labourers who had come into that part of the country to get up the harvest. The type of fever is shown to be the "simple continued," with tendency to typhoid depression. The writer states that there was no reason to believe it infectious, unless in the event of close crowding of the patients and inattention to ventilation.—(*Prov. Journal*, Dec. 29, 1848.)

Lastly, Dr. Orr has furnished a historical and statistical sketch of the epidemic fever in Glasgow; and, amongst other useful information, gives a vivid picture of the dangers which were encountered by the medical attendants. In one parish alone, seven out of seventeen surgeons took fever, three of whom died. In another district, containing seven surgeons, three perished. In all, no fewer than 117 persons, engaged in attending fever patients, contracted the disease, of which number 30 were ascertained to have died. (*Ed. Med. and Surgical Journal*, No. 175.)—*Ranking's Report on the Progress of Pract. Med.* in *Retrospect*, vol. vii.

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32. *Cold Douches in the Treatment of Intermittent Fever.*—M. Fleury has presented a memoir to the French Academy of Sciences, on the use of cold douches in ague.

He was led to these researches by the assertion of Dr. Currie, that the accessions of ague might be prevented by the affusion of cold water, and that by its repetition four or five times, the disease might be entirely cured. M. Fleury has employed this means one or two hours before the expected paroxysm, in the form of a general douche, and in that of a local one to the region of the spleen.

The ends attained by the above plan he believes to be—1. A shock exerted on the nervous system, and on the general capillary circulation. 2. The opposing of a vigorous reaction and general stimulation of the surface to the cold stage of the fever. 3. A modification of the circulation of the spleen, combating congestion of that organ.

He has pursued this treatment in eleven cases of intermittent fever. In seven of them the disease was recent, and there had been but from three to seventeen paroxysms; quinine had not been administered in any one. In two cases, the spleen preserved its normal size; in five, it was enlarged: a cure was effected in all. In one, a single douche sufficed to cut short the fever. In two others, two affusions were necessary to do so, and to restore to the spleen its natural dimensions. In the remaining four, affusion was practiced three times.

In those patients where two or three douches were used, the effects produced were constantly the same. By the first application, the accession was retarded two or three hours; the rigors less violent, and shorter by one-half or five-sixths the time; the heat and headache were equally lessened; and the total duration of the fit was diminished by at least one-half. Age and the type of the fever did not exercise any appreciable influence over the effects of the treatment. Where, however, the volume of the spleen was larger, the time required for the cure was augmented. Four patients had suffered from the disease for from two to eleven

months, having had several relapses, and resisted the action of sulphate of quinine, and presented the anæmia, emaciation, anorexia, &c., seen in those who have been long affected by ague. Three douches were required in two of these cases, and five in one other, to remove the fever; but from eight to eleven were necessary to cause the splenic engorgement and the cachectic symptoms to disappear. In one case the liver was very greatly enlarged; but this condition disappeared by perseverance with the affusions.

M. Fleury arrives at the following conclusions:—1. In the treatment of recent intermittent fever, simple, and with little or no engorgement of the spleen, cold douches may be substituted for quinine. 2. In the treatment of old-standing ague, where several relapses have occurred, and there is considerable enlargement of the spleen, or of the liver, with a cachectic condition, cold affusions are to be preferred to quinine; for they cut short the fever, restore the viscera to their natural volume, and remove the cachexy more rapidly and more safely than quinine; the latter, in large doses, not unfrequently acting injuriously upon the nervous system, or on the digestive organs. (*Bulletin des Academ., and Lancet.*)—*Ibid.*

SURGICAL PATHOLOGY AND THERAPEUTICS AND OPERATIVE SURGERY.

33. *The Question of Amputation in Gunshot Wounds.* By M. Malgaigne.—This question has formed the subject of a most interesting debate in the Academy of Medicine, Paris. MM. Roux and Baudens having concluded their communications,

M. Malgaigne observed, that the point towards which it was more especially his desire to call the attention of the Academy, was the treatment of fractures of the femur by war projectiles. It was a generally received opinion, more particularly promulgated by military surgeons, that such fractures required amputation. This was the practice of Ravaton, one of our great military authorities; Larrey, less exclusive than his predecessor, thought the extremity might be still preserved when the shot had only occasioned a simple fracture of the lower fourth or even third of the femur; but that all fractures occurring higher, in consequence of a gunshot wound, absolutely required amputation. M. Malgaigne then recalled the opinion of Ribes, who inclined towards considering all injuries of the femur, occasioned by musket balls, as cases for amputation. M. Malgaigne himself had adopted at one time this mode of thinking, and had applied it upon a field of battle; but the results were most unsatisfactory, and in the Polish campaign he had lost all the cases of amputation performed upon the thigh after gunshot wounds. On his return to France, M. Malgaigne had endeavoured to explain to himself this frightful mortality; and, on reading over the memoirs of M. Ribes, he was struck with an important fact, which that author honestly acknowledged:—"Out of 4000 invalided soldiers," said M. Ribes, "he had not found a single case of injury of the femur by shot. This was a proof, in his opinion, that all the men who had suffered from such wounds had died." But, on the other hand, amongst these 4000 cases, M. Ribes had not found a single case of amputation of the thigh—a fact which proved to M. Malgaigne that all these operations had been fatal, and that amputation did not afford more chances of preserving the lives of the wounded than the opposite practice.

On inquiring further into the details of the question, M. Malgaigne had arrived at this conclusion, that the same doubts might with justice be applied to all amputations performed in the treatment of injuries by war projectiles.

The question of immediate amputation might be said to be one of the most important points of modern surgery. In the ancient Academy of Surgery it was the object of a long debate; and Boucher had said that two-thirds of the cases of amputation terminated fatally.

After Fontenoy, out of 300 cases, Faure asserted that only thirty or forty were cured.

Bilguez states that, during the seven years' war, scarcely one or two cases had been saved out of numberless operations.

On the other hand, M. Malgaigne would lay before the Academy more recent statistics of a very different tendency.

Fercoq said that, of 60 primary amputations, only 2 cases did not recover, *i. e.*, 1 out of 30.

Percy was not quite so fortunate; of 92 amputations of the leg, thigh, and arm, 6 cases died, *i. e.*, 1 out of 15.

Guthrie, at New Orleans, performed 45 immediate amputations; 7 cases terminated fatally—1 out of 7; at the battle of Toulouse, 47 amputations, 9 deaths—1 out of 5.

The English forces during the Spanish war presented 291 amputations, 24 deaths —1 out of 8.

Del Signore, at Navarino, 31 amputations—1 death.

The English surgeons at Aboukir and Camfordomer reported 30 amputations; all were successful.

Larrey, on the 27th and 29th Brumaire, 13 amputations—2 deaths.

M. Malgaigne had further drawn up a list of the amputations performed in the hospitals of Paris, for traumatic lesions, during a period of ten years—from 1836 to 1846. These statistics were instructive. 165 amputations had been performed upon men, and 17 upon women. The mortality had been 107 for the former, and 10 for the latter. How were these amputations subdivided? The following was their classification for the men:—

	Amputations.	Deaths.	
Thigh, - - -	- 44	34	over 3–4
Leg, - - -	- 67	42	near 2–3
Foot, - - -	- 8	5	over 1–2
Shoulder, - - -	- 7	7	
Arm, - - -	- 29	17	nearly 2–3
Forearm, - - -	- 10	2	" 1–5

Thus, in Paris, in the best hospitals, under the care of the first surgeons in the world (!), the average mortality of primary amputations was equal to two-thirds of the cases.

These were certainly unexpected results, and must, doubtless, cast some doubts upon the numerous successes which had been previously enumerated.

Circumscribing the question to narrow limits, *i. e.*, to the results of amputation in fractures of the thigh or leg, M. Malgaigne could bring forward an equally important document. In 1830, Dupuytren had under his care 13 fractures of the thigh in which he did not operate; 5 cases cured, 7 died; another was operated at a later period, and proved fatal.

In fractures of the knee or leg, Dupuytren performed 5 primary amputations of the thigh, 3 patients died; 4 secondary amputations, 4 deaths.

For the other fractures of the leg, in which the same surgeon did not amputate, 14 were fractures of both bones, 8 died; 2 of the tibia, 1 death; 2 of the fibula, 1 death. He performed two primary amputations of the leg: both cases terminated fatally.

Such were (continued M. Malgaigne) the precise documents existing in science; they tended to prove that the opinion of military surgeons, relative to the advantageous results of primary amputations, did not rest upon a very solid basis.

The following general conclusion might be adopted, viz., that, in attempting to preserve the limbs of the wounded, the surgeon did not cause them to incur any greater risks than if amputation were performed.

All these considerations had greatly modified M. Malgaigne's opinions on the subject, and had changed his practice in similar cases.

The events of June had furnished him with a melancholy occasion of verifying again the correctness of his newly adopted views; and this led him to expose before the Academy the results he had obtained at the Hôpital Saint Louis, in a service where an enormous number of wounded had been admitted.

He would acknowledge at once, that in some wounds all debate about the propriety of amputation should be set aside; thus in gunshot wounds of the hip or knee joints the operation was evidently unavoidable. These cases excluded, the following had been the result of the fractures, in which M. Malgaigne had refrained from amputation:—

5 fractures of the thigh:	2 recovered,	2 deaths,	1 secondary amput.
6 fractures of the leg:	2 doing very well,	4 deaths.	
2 fractures of the tibia:	2 ditto.		
4 fractures of the fibula:	2 ditto.	2 deaths.	
3 fractures of the arm:	1 recovered,	2 deaths.	
5 fractures of the forearm:	5 ditto.		
2 fractures of the metacarp:	1 doing very well,	1 death.	
27	15	11	1

M. Malgaigne had performed only one primary amputation, which he was almost ashamed to acknowledge, after the energetic reprobation of which it had been the object from M. Roux, an amputation of the elbow. It might be pleaded in extenuation that the patient had recovered. M. Malgaigne would acknowledge he did not understand M. Roux's motives for proscribing this operation.

Thus, out of 17 fractures of the thigh and leg treated without operation, 8 cures had been obtained. Dupuytren, out of 31, had obtained 13 recoveries. M. Malgaigne's results were, therefore, more satisfactory than those of M. Boucher, who considered that primary operations sacrificed the lives of two-thirds of the patients.

M. Gosselin, Dr. Malgaigne's colleague at Saint Louis, had also abstained from operations. The following were his results:—

3 fractures of the thigh:	1 gives hope,	2 deaths.
3 fractures of the leg:	1 uncertain,	2 deaths.
4 fractures of the tibio-tarsal joint:	1 doing well,	1 death, 2 secondary amput.
2 fractures of the shoulder:	2 ditto.	
2 fractures of the arm:	2 ditto.	
3 fractures of the elbow:	1 uncertain,	2 sec. amput., 2 deaths.
8 fractures of the forearm:	8 well.	
25	16 cases of success.	

The difference of the mortality amongst the insurgents and soldiers had been as follows:—

Out of 17 fractures of thigh and leg—

5 insurgents:	4 deaths, 1 recovery (fracture of the thigh).	
12 soldiers:	4 deaths, 7 doing well,	1 amput. cured.

This considerable mortality amongst the insurgents depended, in some measure, of course, upon the moral depression consequent upon their defeat, but also upon the interrogations which those unfortunate men were submitted to, without the authorization of the surgeons to whose care they were confided.

These satisfactory results were due (said M. Malgaigne) to various causes, amongst which it was only fair to place the special treatment employed. He avoided, as much as possible, all scarifications and incisions, employed only the simplest dressings, and gave food to the patients as soon as any appetite was present. With regard to venesection, he scarcely ever employed it; being a pupil of Broussais, he formerly recommended the practice, but had been deterred from its use by the fatal effects he had witnessed. A document, which unfortunately had never been published, and which had been prepared by the orders of the administration of hospitals, was most peremptory in this respect. It was the statistical account of the mortality amongst the wounded admitted in 1814 into the hospitals of Paris. In these tables French, Prussian, Austrian, and Russian subjects had been entered, together with a statement of the mode of treatment. All except the Russians were submitted to a severe regimen. The mild cases amongst the latter received what was called a portion of food; others received the half portion, and this *half* allowance consisted of—

Bread,	1 lb.
Meat,	½ lb.
Vegetables,	¼ lb.
Wine,	12 oz.
Brandy,	12 oz.

These figures might naturally astonish the meeting; but the tables of mortality would still further surprise the Academy. The mortality was—

For French soldiers,	-	-	-	-	1 out of 7
— Prussian —	-	-	-	-	1 — 9
— Austrian —	-	-	-	-	1 — 11
— Russian —	-	-	-	-	1 — 27

These were eloquent ciphers; they had been sufficient to convert M. Malgaigne, who, it was true, did not allow brandy to his patients, but a reasonable amount of wine.—*Monthly Ret.*, Sept. 1848, from *Dr. M'Carthy's Report in Med. Times*, Aug. 19.

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34. *Case of Resection of the Scapula.* By Wm. Fergusson, Prof. of Surg. &c. (Proceedings of Roy. Med. & Chir. Soc., June 13.)—W. H——, aged thirty-three, was admitted into King's College Hospital, on January 13th, 1847 He had suffered from disease of the right shoulder-joint for seven years, when the extremity was amputated at the articulation, at Fort Pitt Hospital, and a part of the glenoid cavity was at the same time removed. He recovered, but became the subject of abscess on the front of the chest, about twelve months afterwards. On admission into King's College Hospital, the whole shoulder was enlarged, and the soft tissues hypertrophied; a great many fistulous openings existed in the pectoral region, and over the clavicle, which discharged copiously. Having determined on the propriety of removing the scapula entire, the author proceeded to operate on the 6th of February, 1847. The patient was put under the influence of ether, and the clavicle was first exposed, and divided about two inches from its acromial extremity with a saw; another incision extended along the spine of the scapula, and a third in the course of the old cicatrix. Some further dissection, and a division of the attaching muscles, enabled the operator to complete the excision, the subclavian artery being the while compressed over the first rib. The axillary and other arteries were tied, and the wound closed with stitches. The patient's recovery was satisfactory and unattended by anything deserving particular notice. On May 5th, he was sent into the country, and a recent account reports him to be well and fat, though still occasionally troubled with small abscesses on the breast. After maceration, the bone exhibited a hypertrophied condition; the remaining portion of the glenoid cavity was carious, and its margin was surrounded by a mass of new ossific matter. The author concluded with some observations on the interest attaching to the case, from the rarity and formidable character of the operation required for the relief of the disease, and its successful issue.—*Lond. Med. Gaz.*, June 1848.

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35. *Excision of the Elbow-Joint and greater part of the Ulna.* By Prof. Fergusson. Reported by H. Smith, Esq.—William C——, aged sixteen, was admitted into King's College Hospital, July 21st, 1847, with disease of the right arm, presenting the following appearances. There is a large unhealthy sore on the ulnar side of limb, extending from the joint of the elbow four or five inches down the arm; and by means of the probe it can be ascertained that there is extensive disease of the ulna; the arm itself is in a semiflexed position, all power of moving the joint being lost. The boy is in a wretched state of health: he has been attending at one or two hospitals in London, and he was discharged only a few days back from one, being told that nothing could be done for him.

Aug. 14th.—Mr. Fergusson has examined this case from time to time. Having made up his mind to remove the diseased bone, the patient was brought into the theatre, and being placed under the influence of ether, the operation was commenced. An incision six inches in length was carried over the ulna. The tissues being well cleared away, and the whole of the bone found in a diseased condition to within two inches of the lower extremity, the cutting pliers were used at that point, and the section was made. The upper part of the bone and the elbow-joint were then examined, and the articulating surfaces of the latter being affected, were removed, together with three-fourths of the ulna. The edges of the wound, which were very extensive, were then brought together by sutures; cold rags were applied, and the limb was kept in the semiflexed position.

17th.—This day the dressings were removed from the wound, which appears

to be in a healthy condition. The patient has suffered considerable pain, but this has been relieved by the constant application of warm water.

24th.—The wound is looking very well, and the limb being in a good position for any future use of it, a bandage was ordered to be applied, and used daily.

From this time the case progressed favourably, but slowly. The patient being kept in the house for some weeks until the wound had healed considerably, and his health had somewhat bettered, he was discharged, to attend as an out-patient. The wound was some time in healing up, and his health, which had been much shattered, gradually improved. A most perfect and satisfactory cure took place, and I had an opportunity, a few weeks ago, of seeing the patient in good health, and having the most perfect use of his hand.—*Lancet*, Aug. 26, 1848.

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36. *Case of Dislocated Head of the Radius successfully reduced two years and one month after the Accident.* By James Stark, M. D. (*Edinburgh Med. and Surg. Journ.*, Jan. 1848.)—The subject of this case was a girl about nine years of age, in whom the dislocation was produced by a fall against a fender, the elbow of the right arm coming in contact with its edge. The case was treated by the family surgeon as a mere contusion.

As from the cases related by Flaubert, Marx, and Dupuytren, it appears that the chief danger in reducing old dislocations arose from the risk of rupturing the muscles, blood-vessels, or nerves, by employing violent efforts at reduction, it was determined in this case to extend the arm firmly, but gently, day by day, till the new adhesions of the head of the radius were so much lengthened, or the head so loosened from its new site, that, by the employment of not much additional force, the bone would at last be put into its proper place. The extension was effected by seizing the hand of the patient with the right hand, bending the elbow-joint so that the forearm formed a right angle with the arm, and applying the counter-extension by passing the left hand close above the elbow-joint, and thus fixing the humerus. The extension was then continued till slight uneasiness was complained of. This was repeated daily from the 12th of May till the 2d of June, 1847. By this time the head of the radius had become quite loosened, and could be pulled to the edge of the articular head of the humerus. On the 2d of June, therefore, Dr. S. made the extension and counter-extension himself, and when the head of the radius arrived at the edge of the articular surface of the humerus, allowed the ball of the thumb of the left hand to press against it; when bending the forearm on the arm, the bone quietly slipped into its place. The head of the radius was found to have a strong tendency to slip out of its place and return to its former situation in front of the elbow-joint, partly on account of the altered form of the condyle of the humerus, partly from the cavity of the joint being filled with an elastic fibrous deposit. The arm was, therefore, kept much bent, and the hand tied up across the chest, so that the tips of the fingers almost touched the opposite clavicle.

Slight tumefaction, increased heat, and redness, with uneasiness rather than distinct pain, followed. These were speedily relieved by an evaporating lotion, but no other treatment was required, and the child was allowed to take exercise as usual. After a few days, a bandage was applied round the joint, but gave such uneasiness that it was obliged to be removed. No application was therefore made to the joint itself. After the lapse of about a fortnight, slight motion was daily given to the elbow-joint, without, however, lowering the hand or extending the arm. In about three and a half weeks after the reduction, the forearm was lowered so as to form nearly a right angle with the arm, greater motion was daily allowed to the elbow-joint, and frictions were also employed to promote the absorption of the fibrinous deposit, which, from filling the joint, still prevented the close coaptation of the bones. By the 10th of July the motions of the elbow-joint were found on trial to be nearly as extensive as those of the sound arm. The forearm could be bent on the arm so as to allow of the hand being put to any part of the head; but when the arm was extended, the head of the radius threatened to rise and resume its abnormal situation. The arm was, therefore, so tied that it could not be extended further than a right angle.

By the 1st August, or two months after reduction, the head of the radius was found to have acquired such a degree of firmness in its proper sight, that all band-

ages were removed, and the arm was allowed to be free. From this day the hand and arm improved in strength, so that, by the middle of September, both the child and her parents acknowledged she had much more use of the hand than she had had from the day of the accident, two years and four months past.

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37. *History of a Case of Dislocation of the Head of the Femur backwards; with some Observations on that Form of Dislocation.* By Richard Quain.—An opportunity having occurred to the author of making a dissection of the parts concerned in a recent case of dislocation of the femur, he availed himself of it, and has embodied his observations in this communication to the Society. The subject of the injury, a man aged 60, was killed by a fall from a ladder, the cause of death being extensive fracture through the base of the skull. Considerable deformity being observed in the right lower limb, the author was induced to make a careful examination of the extremity, with a view to detect the nature of the injury it had sustained. It was apparently, but not really, much shortened; it was also inverted, and separated from the sound limb. The trochanter major was altered in its relation to the iliac spine, and the depression behind it was wanting; the head of the femur could be felt towards the back of the pelvis. The limb could be flexed, but not rotated outwards. On removing the gluteus maximus, the head of the dislocated bone was exposed below the pyriform muscle, and immediately behind the acetabulum. The pelvis had sustained a fracture, but the fragments were not altered in their relation to each other. The obturator externus, quadratus femoris, and some deep fibres of the gluteus medius, were torn through. The inner and lower part of the capsular ligament was separated from the neck of the femur, and the round ligament was torn from the depression on its head. The great sciatic nerve was stretched but not injured, as were also the obturator internus and gemelli muscles. The brim of the acetabulum was slightly fractured. After giving the above details, the author remarked that there are points of contrast between the present and other cases which have been recorded of a similar accident; and proceeded to quote the history of the dissection in a few instances of the form of dislocation in question. The first was a case from Sir A. Cooper's "Treatise on Dislocations;" the second, one reported by Dr. Scott in the third volume of the "Dublin Hospital Reports;" and a third, described by M. Billard, in the third volume of the "Archives Générales de Médecine." He then proceeded to comment on these cases, directing attention particularly to the following points:—1st, the condition of the structures immediately interested in the dislocation, and especially the exact position of the femur; 2dly, the characteristic signs of the displacement; and 3dly, the restoration of the bone to its natural position. The practical inferences drawn by the author from the foregoing observations may be summed up as follows:—1st. In the ordinary form of dislocation backwards, the femur does not reach the sciatic notch. 2d. The head of the bone is lodged immediately behind the acetabulum, over the base of the ischiatic spine, and opposite to a small part of the sciatic foramina. 3d. The injury would be correctly named the dislocation of the head of the femur backwards. 4th. During the extension made to reduce this dislocation, the thigh is most advantageously directed across the pelvis, so that it shall form a right angle, or nearly a right angle, with the abdomen. At the same time the limb is to be in a state of abduction; the femur will thus be drawn away from the pelvis, forwards and outwards. The knee is to be bent, the extending force being fixed above the joint.—*Lond. Med. Gaz.*, July 16th.

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38. *Dislocation of the Head of the Femur on the Dorsum Ilii, in a Child three and a-half years old.* (*Prov. Med. and Surg. Journ.*, July 12, 1848.)—Mr. Image communicated to the Suffolk Branch of the Prov. Med. and Surg. Ass., at its annual meeting in June, a case of dislocation of the head of the femur on the dorsum ilii, produced by injury, which is worthy of notice from the extreme rarity of such an accident at so early an age.

"William Colley, aged 3½ years, of Ixworth, Suffolk, was admitted into the Suffolk Hospital, May 6th, 1847, with dislocation of the head of the femur on the dorsum ilii. The accident had occurred twelve days prior to his admission.

"The accident appears to have been produced by his sister jumping upon his

shoulders, from a step above that on which her brother was standing. When I first saw him, the left great toe was resting on the instep of the opposite foot, and the knee crossing over the lower third of the right femur. The limb was an inch and three quarters shorter than the right. He was a remarkably fine healthy child. Soon after his admission reduction was attempted for a considerable time, but unsuccessfully, as we were not able to fix the knee-strap sufficiently tight to bear the long-continued extension.

"May 7th. Having obtained a proper sized knee-strap, and having nauseated our little patient with tartar emetic, and put him into a hot bath, we again applied the pulleys, and after ten minutes succeeded in reducing the dislocation. The bone passed into its natural situation without the slightest jerk or sound. The limb now assumed exactly the same appearance as the other, the shortening being entirely removed. The thighs were kept tied together for a week, and on the 18th of May he walked out perfectly well."

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39. *Case of undescribed Congenital Malformation of the Shoulder-Joint, simulating Congenital Dislocation.* Dr. BELLINGHAM, on examining a patient, noticed that his right shoulder and arm presented a very different appearance from the left; the muscles, particularly the deltoid, being atrophied, and the bulk of the arm being one-half that of the opposite limb, in which the muscles were largely developed. He could not raise the arm to a right angle with the body, but all the underhand motions were well performed, and he stated that he could carry heavy bodies in the hand. On being questioned, he said this had been the condition of the arm as long as he could remember; he had never received an injury in the part until two or three years since, when the clavicle on that side was fractured.

On examination, the shoulder-joint presented somewhat the appearance of a congenital dislocation; the acromion process was very prominent, the deltoid muscle scarcely developed, and the arm about half the size of the opposite limb; in every motion of the joint the scapula moved with the humerus, as if anchylosis had taken place; the arm could not be brought to a right angle with the body; when raised nearly to this point, there was a sudden check to its further elevation. The head of the humerus did not form any prominence in the axilla, nor was there a vacant space between the acromion process and the head of the humerus, and the elbow did not project from the side.

On a post-mortem examination, the supra-spinatus, the infra-spinatus, and the subscapularis muscles were found to be atrophied and converted into fatty matter, similar to what is seen in cases of very old unreduced dislocation, where the muscles had not for many years been called into action. Scarcely any traces of the deltoid muscle existed; the biceps was wasted, as were likewise the other muscles of the arm, but they were not altered in texture. The capsular ligament of the shoulder-joint was very thick, consisting of several layers, which were separated from one another by cellular tissue. At the under surface of this ligament, and apparently forming a part of it, a round very strong ligament passed from the scapula to the humerus, which became extremely tense when the arm was raised from the side, and rendered it impracticable to bring the arm above a right angle with the body, even when the muscles connected with the joint were removed. The head of the humerus was in contact with the glenoid cavity, and remained in contact with it after the muscles were cut away, and after the capsular ligament had been opened above. The scapula, clavicle and humerus were small, resembling those of a delicate female, rather than of a labouring man. There was no appearance of the clavicle upon that side having ever been fractured.

Dr Bellingham says the condition of the shoulder-joint now described, which there is every reason to believe was congenital, must constitute a very rare form of malformation, as he had met with no account of a dissection where such a condition of the parts was observed; and the most recent work upon injuries and diseases in the vicinity of joints, by Mr. Smith, contains no case resembling it.

The original malformation here, was undoubtedly in the capsular ligament of the shoulder-joint, the inferior portion of which was condensed, shortened, and converted into a kind of round ligament, which so limited the motions of the arm that it could not be raised above a right angle with the body;—the muscles em-

ployed in raising the arm were never, therefore, called into action, and their tissue had degenerated; in some, as the supra-spinatus, the infra-spinatus, and the subscapularis, the muscular tissue was converted into a matter resembling fat; while the fibres of the deltoid seemed never to have been developed, so completely was its muscular tissue absent.

The scapula, clavicle, and humerus upon this side, which resembled rather those of a delicate female than of a robust man, were exhibited to the members of the society, and are now in the Museum of the Royal College of Surgeons.—*Dub. Med. Press*, July 5th, 1848.

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40. *Foreign Bodies in the Knee-Joint.*—M. Velpeau has lately delivered an extremely interesting clinical lecture on the above distressing and dangerous affection. So impressed is this distinguished surgeon with the hazardous nature of the curative means employed in such cases, that he quotes Benjamin Bell, "better amputate at once than attempt extraction, which is so often followed by death." The case brought forward in this instance forms, however, an exception to the rule, for complete success crowned M. Velpeau's efforts. The subject is a journeyman smith, twenty-four years of age, of strong make and good constitution; he had for some time experienced a little pain in the right knee, when one day, in rising from the kneeling posture, which he had assumed for the shoeing of a horse, he felt a sudden darting pain in the knee, and, in applying his hand to it, was for the first time made aware of the existence in that part of a foreign body of the size of a walnut. He had experienced no pain whatsoever immediately before, had by no means risen abruptly, never suffered from articular rheumatism, and had at the moment nothing the matter with him but blennorrhagia. Divers means were used before he was admitted at La Charité, when the part presented the following appearances: swelling, redness, and pain, with effusion in the joint; on the internal side of the inner condyle a movable foreign body is felt, of the figure and size of a horse-chestnut; it could be easily pushed under the ligamentum patellæ and brought out again; in the extension of the limb the foreign body lay by the inner and superior side of the internal condyle inflexion, it was hidden by the ligament of the patella. When the inflexion was brought down by appropriate means, the floating cartilage might be pressed and pushed without giving any pain. From this it is evident that the primary affection was the production of the foreign body, which had caused the subsequent inflexion by its irritating presence. As to the nature of the floating body, M. Velpeau mentions that he has seen two cases in which it consisted of fragments of detached cartilage, and thinks that, in general, they are mostly the result of resorption and induration after effusion *within* the synovial capsule, and not *without*, as Sir Astley Cooper and Béclard have thought; although there *may* be a plastic effusion on the external surface of the synovial membrane, which then gives rise to a foreign body, which remains attached to it by a longer or shorter peduncle. It is not easy to determine the origin of the cartilage in this case, neither has the operation thrown any light upon this. None but direct surgical means could be thought of, and extraction was the only one which offered any chance, although a full third of the patients thus treated have perished. So great is the danger, that surgeons have tried divers means in order to avoid the inflexion of the synovial membrane: thus has M. Dufresne, a Paris surgeon, proposed to reach the capsule by a subcutaneous incision, make a small opening in the synovial sac, gradually press out the cartilage, and leave it in the cellular tissue. This proceeding offers, however, no security against arthritis. M. Goyran, of Aix, operates in the same manner, but leaving an interval of a week between the capsular incision and the final elimination of the foreign body through the skin: M. Velpeau has succeeded twice in this manner. Boyer used to avoid making the cutaneous incision parallel to the capsular: this, however, was but a slight modification. It is very probable that, in this case, the cartilage was pediculated and intra-capsular, so that the operation must be extremely hazardous, as the knife *must* penetrate within the synovial sac. No inflexion whatever remaining in the knee, the extraction was practised in the following manner. Through a puncture in the skin, the capsule was entered with a lancet-blade fixed on a long and narrow-stem, the leg being extended on the thigh; an assistant then pressed the foreign body, to allow the surgeon to cut

through the peduncle and push out the free cartilage, but all efforts failed. A hook was then introduced along the stem of the instrument first used, and the foreign body being then drawn outwards by the hook, renewed endeavours were made to cut the peduncle; but this manœuvre succeeded as little as the first. The surgeon then decided on crushing the cartilage, and he effected this with the strong lance which had been first introduced, the foreign body being secured by the hook. After much tearing in every direction, the two instruments were withdrawn, and the trituration seemed complete; many of the fragments followed the hook, and lodged in the surrounding cellular tissue, but the peduncle had remained within the articulation along with some fragments: it might, however, be confidently hoped that both the latter and the former would, after so minute a division, be eventually absorbed. The cutaneous orifice was carefully closed with court plaster, and a firm compression between the capsule and the cellular tissue containing the fragments was effected, in order to isolate the former from a part of the articulation which might become the focus of suppuration. A few rounds of bandage being applied, the patient was carried to his bed, and the leg slightly flexed by means of a pillow placed under the knee. We have given such a length to this analysis, that we can merely add that one month and five days sufficed for the complete absorption of the foreign body and the perfect recovery of all the motions of the limb. Not the most minute examination could detect the least trace of the once so annoying cartilage; and M. Velpeau adds that this is the first time that he has thus modified M. Goyran's method by bruising the foreign body both within and without the capsule.—*Lancet*, Aug. 26, 1848.

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41. *Rapid Recovery after Fracture of the Tibia.*—Dr. Schweich relates the case of a peasant, æt. 40, whose tibia was tranversely fractured at about its middle, producing obvious displacement. The case was treated by means of the starch bandage, and the reporter left off attending him on the sixth day. He was much surprised to hear afterwards that he had tried the experiment of walking in his room on the 12th day, and had gone to his employment on the 14th. On the 25th day he called upon the author, and exhibited a well-formed callus.—*Brit. and For. Med. Chirurg. Rev.*, July 1848, from *Casper's Wöchenschrift*, 1848, No. 7.

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42. *Case of Obturator Hernia, with Symptoms of Intestinal Obstruction within the Abdomen, to relieve which the Abdomen was opened.* By John Hilton, F. R. S.—Miss ——, aged 36, in September, 1847, had some severe pain and local tenderness on pressure on the right side of the abdomen, above Poupart's ligament, with continued constipation and some vomiting. During several days these symptoms were relieved by the local application of leeches and fomentations, and the use of aperients and purgative injections. From that time she continued in her usual health until Jan. 20th, 1848, when she was suddenly seized with symptoms of strangulated hernia; but no hernia could be detected, although she was repeatedly examined in reference to that point. Various means were employed, without any permanent relief to the symptoms of strangulated intestine. These means were continued during eleven days, when in consultation with Dr. Fox and Mr. Blackmore, of old Street Road, in whose pratice this case occurred, it was resolved to recommend the patient to submit to an operation, the whole importance of which was fully explained to her. On the twelfth day from the first symptoms of strangulated intestine, Mr. Hilton opened the abdomen by cutting in the median line below the umbilicus, and ascertained the existence of an obturator hernia, which had not been at all suspected to exist. The intestine was withdrawn from the obturator opening by laying hold of it within the abdomen; no external tumour could be at that time detected in the upper part of the thigh. The operation was performed (with the patient under the influence of chloroform) in the morning, and the patient died in the evening of the same day. The post-mortem examination gave evidence of extensive recent peritonitis. The portion of intestine which had been in the hernial sac was distinctly seen, and on examination was found to have been in a condition favourable to recovery. The hernial sac remained fixed in the thigh; the parts surrounding it were dissected; and a drawing is annexed to the record of the case, showing the position of the hernia.—*Lond. Med. Gaz.*, July 16th.

43. *Report of a Case in which Gastrotomy was performed for the relief of Obstruction of the Bowels.* By R. Druitt, Esq.—J. D——, a delicate boy, aged eleven, had, at the end of February last, an attack of inflammation of the bowels, which yielded to the use of calomel, Dover's powder, and purgatives. On April 1st, the author was requested to see him for a similar attack, which resisted the treatment before adopted. Vomiting supervened, and the bowels were obstinately constipated. The belly was tense, but the chief pain and tenderness were referred to one spot—a little below and to the left of the umbilicus. The use of purgatives merely excited vomiting, and the rejected matter assumed a yellow, liquid character, and had a stercoraceous smell. The symptoms varied but little, the stomach rejecting almost everything but milk and soda-water until the 9th, when the patient appeared excessively exhausted. After this he rallied, but the bowels were unmoved; and, as every reasonable measure had been resorted to, without success, to procure their evacuation, as the tenderness continued fixed to the same spot, and as there was evidently a distended state of probably both the stomach and neighbouring portion of intestine, it was ultimately determined that an operation for relief of the supposed internal strangulation should be resorted to. On the 14th, the author accordingly opened the abdomen by an incision along the linea alba, below the umbilicus, and a distinct band was soon discovered, binding down the intestine. This was liberated; but almost simultaneously the bowel gave way at a point lower down, its contents escaping into the peritoneal cavity. This aperture was found and secured; but the patient survived only two hours and a half. On examining the abdomen after death, there were evident traces of former peritonitis, in the form of extensive adhesions. The whole of the large intestine, and a portion of the ileum, were pale, contracted, and empty. The remaining portion of the small intestine, up to the duodenum, was reddened, enormously distended, and filled with liquid feculent matter. The stomach was also greatly distended. The seat of stricture, where the band was divided, was marked and abrupt. The ulcerated opening was in the ileum, not far from the lower attachment of the band. The author considered that an earlier operation would have afforded a reasonable prospect of a successful issue.—*Ibid.*

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44. *Operation for Strangulated Hernia on the Plan of Mr. Gay.*—In our last number (p. 218) we noticed an operation performed by Mr. Childs for strangulated hernia, by a plan proposed by Mr. Gay. In the *Lancet* (Aug. 26th), the following case is reported by Dr. Catherwood, in which he operated successfully by the same method.

Miss M——, aged twenty-nine, had been subject to femoral rupture on the right side, for twelve years, but had not worn a truss, for whenever a protrusion took place, she was able, without difficulty, to return it.

Aug. 12th.—After some exertion, the rupture descended and she was unable to return it. I saw her in the afternoon and found it irreducible by taxis, although aided by bleeding, the application of ice, and a purgative enema. Vomiting supervened, and continued with scarcely any intermission during the whole night; and the lower part of the abdomen, especially on the right side of the linea alba, became tense and painful.

13th.—A little before eight o'clock in the morning, I again visited my patient, and found the symptoms so extremely urgent, that I immediately determined on operating, and adopted the plan recommended by Mr. Gay.

Mr. Gay saw my patient, and with his kind assistance, Mr. Burchell being also present, I began the operation, after chloroform had been exhibited, by making an incision, about an inch in length, between the tumour and the spine of the pubis, obliquely from above downwards, and from without inwards, the highest point of the incision being over the inner part of the femoral ring. After completely dividing the superficial fascia, the tip of the finger was readily passed to the angle between Gimbernat's ligament, and the neck of the hernial tumour, and a section of the edge of the ligament made with a concealed bistoury. A few fibres were now found to hold the tumour, which were divided by bringing the edge of the bistoury directly forwards. By making a very gentle pressure on the sound skin, the rupture immediately returned. The whole operation occupied but a very short

space of time. Within ten minutes the bowels were moved, and their action continued at short intervals during the course of the night.

14th.—Slight pain in the right side of the chest; abdominal pain nearly gone. She wishes to get up. Ordered, half an ounce of castor-oil, to be taken directly, and when it has acted, twenty drops of laudanum every three hours, until the action of the bowels be restrained. Beef-tea.

15th.—Patient recovered; the slight wound healing fast.

Observations.—This mode of operating possesses such great advantages over the commonly-adopted method, that it only requires to be thoroughly known and understood, to receive the sanction of the profession.

1. The external incision is only just large enough to admit easily the fore finger.
2. Healthy structures are alone interfered with.
3. The wound heals by the first intention.
4. A truss may be worn three days after the operation.
5. The pain is inconsiderable, and the danger most materially lessened.

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45. *Case of Hydatid Disease of the Liver cured by Operation.* By George O. Rees, M. D.—The patient was a man aged thirty-one years; admitted into Guy's Hospital on the 13th of October, 1847. Examination of his abdomen detected a distinct tumour occupying the right hypochondriac and epigastric regions. Fluctuation could be felt in it. On the 4th of December the tumour was tapped by Mr. Hilton, with a trocar and canula not larger than an ordinary exploring needle, straps of plaster having previously been passed round the body, so as to fix the tumour in position, and to exert pressure upwards. Thirty-eight ounces of clear fluid were removed. The wound quickly closed. On the 7th of January, the tapping was repeated with the same instrument, and with the same precautions as before. On this occasion pus of a very offensive odour escaped, and only ten ounces were obtained, owing to the canula becoming obstructed. On the 9th of January the tumour was tapped a third time with a full-sized trocar and canula, an elastic gum-tube being passed through the canula. Twenty four ounces of fetid pus escaped, with membranous flakes, and partially destroyed hydatids. The opening was maintained, and fetid pus, with occasionally hydatids, continued to be discharged (the capacity of the sac at the same time diminishing) till the commencement of April. On the 11th of April the discharging orifice had closed, and no remains of the tumour could be found, unless it were a body about the size of a walnut, below the right lobe of the liver. The author comments upon the diagnosis of the disease, the propriety of the operation, the degree of danger attending it, and the precautions adopted to avert evil results, and concludes with some remarks on the nature of the fluid discharged from the sac.—*Lond. Med. Gaz.*, July 16th.

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46. *A Plan of treating Ovarian Dropsy by the Ulcerative Opening of the Cyst, after its permanent adhesion to the Walls of the Abdomen.* By Edward J. Tilt, M. D. (Proceedings of R. Med. and Chirurg. Soc., June 27.)—The author was led to attempt this mode of cure by observing the process of Nature in some spontaneous and radical cures of ovarian dropsy. His first object is, to establish solid adhesion between the peritoneal covering of the cyst and the peritoneal lining of the abdominal parietes. His second object is, to make the smallest possible opening into the cyst, so that it may not be suddenly emptied, but remain always full, and be only relieved *per stillicidium* of the overplus of liquid distending its cavity, while it gradually contracts. To attain both these objects, he adopts the plan which has often been successful in effecting the adhesion of hydatid cysts of the liver to the abdominal walls. It consists in the application of Vienna paste to the appropriate part of the abdomen. He relates one case in which a radical cure of an ovarian cyst was effected by this means.

A lady, who had always enjoyed good health, ceased menstruating at forty years of age. Soon afterwards, having been exposed to cold, she was seized with violent pain in the left iliac fossa, followed by shivering and high fever. When these symptoms were relieved, a tumour of the size of an orange was felt in the situation of the left ovary. This tumour gradually increased, and in a short space of time the patient had the appearance of being nine months gone with child.

Vienna paste was applied to the pit of the stomach; an eschar was produced, and fell off, and afterwards a small opening was formed by ulceration, through which an albuminous ropy fluid escaped. The abdomen was supported by moderate pressure. In a few weeks the discharge became purulent and offensive. Tepid water was then injected into the cyst daily for some months; the cyst gradually contracting, so that at length it would receive only an ounce of water. In about a year the patient was in effect well, although for several years a fistulous opening remained at the pit of the stomach. In the course of the case the cyst formed a communication with one of the intestines, and for several days the patient passed purulent stools, while, during that time, no pus escaped from the external wound. —*Lond. Med. Gaz.*, July 16th.

47. *Femoral Aneurism—Ligature of External Iliac Artery—Cure.* By Robert Cocks, M. D. (*Edin. Med. & Surg. Journ.* April, 1848.)—The patient was a labourer in a gas works, 46 years of age, of sober habits and enjoying good health. When seen by Dr. C., on the 31st of October, 1847, he stated that two months previously he first felt a pain in his right ham, but that he observed, a fortnight before, for the first time, a pulsating tumour underneath his right groin, about the size of a hen's egg. On examination, Dr. C. found a circumscribed pulsating tumour in the course of the femoral artery, immediately before it entered the tendon of the *triceps* muscle, about the size of a large orange, and which separated, to a considerable extent, the *sartorius* and *rectus* from their natural position. On the surface of the tumour were three protuberances, each being about the size of a sixpenny piece, very elastic to the touch, and through which the pulsation was peculiarly marked, so distinctly, indeed, as to convey a painful impression, that at each successive pulsation the sac would give way, and its contents suddenly burst forth. With the exception of these spots, the tumour, when compressed by the hand, conveyed to the fingers a sensation as if it were a *doughy* substance; and a dull pulsation was felt all over it. By compressing the artery immediately above the tumour, so as to cut off the supply of blood from it, the pulsation at once ceased, and the tumour became flaccid and shrunk in appearance; but the moment the pressure was removed, it speedily resumed its former shape. Handling the tumour even rather roughly, appeared to give the patient no pain or uneasiness. The skin was nowhere discoloured, neither was there any œdema of the leg.

The contents of the visceral cavities appeared to be in a healthy state; his pulse was calm and natural, and his appetite good.

The operation was performed on the 4th of November, by making a longitudinal incision through the integuments and superficial fascia, of about four inches, in a direction nearly parallel with that of Poupart's ligament, and about an inch above it. This brought to view the tendon of the external oblique, which Dr. C. divided in like manner; a few fibres of the internal oblique and transversalis were cautiously raised and separated, exposing the *fascia transversalis*. A director being introduced, these muscles were freely divided to the extent of the external incision. The artery being still at a great depth, it was necessary to employ flexible copper retractors to separate the edges of the wound. The fascia was then gently separated, the *peritoneum* raised, and the finger introduced down to the vessel; a little counter pressure being made with the finger, the aneurism needle was cautiously insinuated under the artery, the convexity of the instrument being turned towards the peritoneum. Slight pressure on the needle, with the vessel interposed, completely prevented all pulsation in the aneurism. The ligature being firmly tied, both ends of the silk were left hanging out of the wound. The artery, at the point where the ligature was applied, appeared to be perfectly healthy.

The edges of the wound were approximated, retained by three stitches, and light water dressing applied. Little blood was lost during the operation; the only vessel divided was a branch of the *circumflexa ilii*, which was immediately secured by ligature. The limb was then wrapped in flannel, and the patient placed in bed. He complained of no pain or uneasiness, only of a chilly sensation in the right limb.

Nothing very remarkable occurred in the progress of the case. On the 20th of December, on applying a slight degree of force to the ligature, which still remained firmly adherent in the wound, the silk broke under the skin, leaving the knot

deeply imbedded in the wound. At this period the aneurismal sac was reduced to half its former size.

March 1st, 1848. He appears quite well. No perceptible difference is apparent between the right limb and the left, and the sac has completely disappeared. On careful examination, a hard cord is alone distinguishable in the situation of the femoral artery.

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48. *Aneurism at the Bend of the Arm after Venesection—Pressure tried without success—Ligature—Cure.*—Mr. Orr communicated to the Surgical Society of Ireland (Feb. 19th, 1848), an interesting case of circumscribed false aneurism after venesection, occurring in a healthy man 27 years of age, admitted into the city of Dublin Hospital Aug. 21st, 1847. The compression was so exerted as not to arrest completely the flow of blood through the vessel; the points of pressure were varied from the axilla to immediately above the tumour; the patient at first bore its application for about six hours at a time, but gradually became intolerant of it, so that it could not be persevered in for more than two hours, and that he was kept in bed and allowed an unstimulating but nutritive diet.

At the end of about four weeks the tumour had considerably increased in size, and there was no evidence of any coagulation having taken place. The man, too, was becoming exceedingly impatient, and anxious that something more decisive should be done for him. Unwilling to have recourse to the knife, Mr. O. determined to try if he could more easily bear compression with the hand to such a degree as altogether to arrest the circulation in the vessel. It was evident that this mode of compression could not be kept up sufficiently long to effect a cure by merely diminishing the force of the circulation. As he had said previously when this mode of pressure was used for a short time while the position of the clamps were being changed, that he thought he could bear it better than anything else, I had some hopes that it might be continued sufficiently long, at least, to make a step towards the cure which might be afterwards followed up. Two of the pupils, Messrs. Meyler and Perceval, having kindly offered to assist, the trial was commenced, but at the end of two hours, during which not a drop of blood had been permitted to enter the aneurism, the patient declared he would sooner submit to amputation of the limb, and refused to permit a continuance of the trial.

In consultation, it was now suggested that, prior to performing any operation, it would be well to try the effect of a bandage and compress applied with moderate tightness, and to give internally the acetate of lead; with considerable difficulty, Mr. O. persuaded the patient to submit to this treatment for a week; but at the end of this period, as it was evident that there was no diminution of, or coagulation in, the sac, Mr. O. agreed to the patient's earnest request to tie the artery.

The operation was performed on the 27th of September.

An incision, about two inches and a half in length, was made over the course of the brachial artery, its lower end terminating just above the aneurism. After dividing the fascia and some cellular tissue, a small vessel, scarcely the size of a crow-quill and unaccompanied by veins, was exposed. Round this a ligature was placed and tightened, but as the pulsation, though checked for an instant, immediately returned in the sac, it was again loosened. By examining with the finger in the wound, another vessel was felt pulsating to the inner side of this, and laid bare by a little further dissection. Some difficulty was found in applying the ligature, in consequence of its being almost entirely concealed by a large vein. When this was effected, pulsation ceased for a moment in the aneurism, but almost immediately returned, and the case being now perfectly clear, the first vessel was also secured, on which it disappeared. Before the wound was dressed, however, the pulse could be felt at the wrist, and was also faintly perceptible in the tumour, which had considerably diminished in size.

No bad symptom subsequently occurred. The aneurism gradually decreased in size, and became much firmer; it ceased to dilate, and seemed to be only thrown forwards by the stroke of the artery. The pulse at the wrist was as strong as in the other arm; the ligature on the small vessel separated on the tenth, and the other on the seventeenth day, by which time the wound was healed, except

at the point where the ligature was brought out; and the next day the patient went to the country.—*Dub. Med. Press*, March, 1848.

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49. *An easy Means of rendering the Ulnar Artery accessible to the finger or even to the eye.* By M. MALGAIGNE.—"I have several times had occasion to place a ligature around the ulnar artery for lesions of this vessel; and when the cellular tissue is gorged with effused blood, and it is necessary to seek it at a considerable depth, I do not hesitate to term it a very difficult operation. Perhaps the means I am about to state will assist in removing the principal difficulty, which especially depends upon the depth of the artery.

"If the fingers and hand are turned forcibly backwards upon the dorsal aspect of the forearm, the relations of the ulnar artery become surprisingly changed. The deep-seated muscles upon which it lies are forcibly raised, and cause a sensible projection under the skin. The tendon of the flexor carpi ulnaris, on the contrary, retreats inwards and backwards; so that the artery, which, in the natural position of parts, is partly concealed by it, is now forced to a much more anterior plane, and lies four or five millimetres on the inner edge of the tendon. In many subjects it becomes more superficial than the radial, and it may be seen raising the skin at each pulsation.

"In traumatic lesions of the vessel, the same position brings the wounded extremity of the vessel towards the surface, and enables us to seize it; and in any case, when we wish to pass a ligature around the vessel, there will be no longer occasion to denude and draw away the tendon of the flexor."—*Brit. and For. Med. Chir. Rev.*, Sept. 1847, from *Revue Medico-Chirurgicale*, tom. ii. p. 160.

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50. *Treatment of Varicose Ulcers and Varicose Veins*, (*Dublin Medical Press*, June 28.)—Dr HARGRAVE recommends for the palliative relief of varicose ulcers and varicose veins, the application of the vulcanized India-rubber, as a bandage, in the form of a ring or garter, which is constantly to be worn, and he relates two cases in which he employed it with advantage.

"The simplicity and facility of application of this garter," he says, "can recommend its adoption in such cases. In these instances the great benefit derived from it was the support it gave to the veins, which, if overloaded on the distal side, it was merely necessary to stretch the garter, when the *veins were instantly seen to empty themselves*. For prolonged use, I think it will supersede the laced stocking and the roller, either of which, by the general compression of the limb, causes the wasting of the muscles and of the soft parts, as I have often witnessed in those individuals who have worn one or other of these bandages for a few years, and produces also a certain amount of debility. No such risk is incurred by this means of support, nor any danger to be apprehended by creasing or unequal pressure of the integuments causing fresh ulceration, if but ordinary attention is paid in wearing it.

"The patient is also saved from the inconvenience, which to some is of some amount, of the extreme heat of the leg caused by the laced stocking.

"I now use the elastic India-rubber web inch wide, into which is inserted a piece of the vulcanized kind, or it can be made solely of the last-named material. I would also suggest that it is better to make them into a ring garter than with a buckle and strap; the latter is too much under the control of the patient, who may become impatient of the pressure, and would consequently relax it; while if the ring garter is used, the only interference will be that of easing the pressure occasionally by stretching it."

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51. *Case of Fungus Hæmatodes of the Testis, where Castration was performed; in which the Patient survived the Operation nearly Seven Years, and on examination presented no trace of Malignant Disease.*—Dr. BELLINGHAM communicated to the Surgical Society of Ireland the following extremely remarkable case:—Wm. Cummins, aged 58, a labouring man, resident a few miles from Dublin, was admitted, under my care, into St. Vincent's Hospital, in January 1839, for an enlargement of the left testis of two months' standing. He has a healthy florid look, and he states that he has always enjoyed good health; his habits are temperate. He first noticed the enlargement of the testis about two months since; his attention was attracted to

it by its size; he never had pain in it, and never received an injury in the part. He says he never had venereal in any form, and never took mercury; he is married, and the father of a family.

On examination, the left testis was found to be enlarged to about the size of a hen's egg; the integuments are unaltered in colour; the tumour is heavy; the epididymis much indurated; the spermatic cord healthy; he has no pain in the part, which is little sensible to the touch, and but slightly painful after being handled.

He remained in the hospital until the beginning of May, when he left, the tumour not having increased in size.

In January, 1840, he was readmitted; the tumour had increased in size, and he complained of a sensation of pain and dragging in the cord, and up to the ring; the tumour is smooth on its surface; the integuments are perfectly sound; it is heavy, painful after being handled, but not otherwise; in front it gives the feel of fluctuation posteriorly; the epididymis is much indurated; the spermatic cord is healthy; the patient's general health is good.

February 11, 1840, the testis was removed, and in a few weeks the wound was healed. On a section being made of the tumour, it presented the usual pulpy appearance of encephaloid disease; the cut surface was pale; the centre softened, and dotted with dark spots like extravasated blood. The epididymis was nearly as hard as cartilage. The layers of the tunica vaginalis were adherent, except at a few points, and here a small quantity of limpid fluid was collected.

The patient soon afterwards left the hospital, and remained well, with the exception of occasional attacks of bronchitis, to which he had been previously subject, until the month of May, 1847, when he was readmitted, labouring under a recent acute attack of double bronchitis, supervening on chronic bronchitis with emphysema, under which he sank a few days subsequently. On a post-mortem examination, the lungs presented the usual appearances seen in subjects dying of bronchitis with emphysema; all the other organs were perfectly healthy. The cicatrix in the scrotum was almost entirely obliterated.

Dr. Bellingham said he wished to place this case on the record of the proceedings of the Surgical Society, because there are few well-authenticated examples of fungus hæmatodes of the testis, where the patient survived the operation long, or where the disease did not reappear in some other part. Indeed writers are almost all agreed that operations for fungus hæmatodes are among the least successful in their eventual results of any that are performed, and fungus hæmatodes of the testis forms no exception to the rule. In the most recent work upon the subject (that by Mr. Curling) he says—"I scarcely know an instance of castration having been performed for this disease in which the patient has survived for any lengthened period. Sir B. Brodie states that he has known but one instance in which there was no recurrence of the disease. The patient was a French courier, and had the disease in one testis, which was amputated. Three or four years after the operation, Sir B. Brodie learned that he was going on favourably." In the case before us, nearly seven years elapsed between the period of the operation and the death of the patient, which was the result of another disease; and on examination all the internal organs were found to be free from disease.

Dr. Bellingham said, it may perhaps be objected that the disease in this instance was probably not genuine encephaloid disease, or it would have reappeared in some other part. Upon this point he would merely observe, that Mr. Cusack, who was kind enough to assist him in the operation, considered it so well marked an example of the disease, that he had a drawing made of the recent parts, which he (Dr. Bellingham) was enabled to exhibit on that evening to the members of the society.—*Dub. Med. Press*, July 5, 1848.

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52. *Scirrhous Lymphatic Gland.*—Mr. Bree detailed to the Suffolk Branch of the Prov. Med. and Surg. Ass., at its meeting in June last, a case of "scirrhous deposit," affecting primarily and solely the lymphatic gland of the right axilla, in a lady, aged sixty. The tumour was seen by Sir B. Brodie and Mr. Aston Key, and removed by the latter gentleman.

The physical character of the tumour previous and subsequent to the operation, and its microscopical examination afterwards, left not the slightest doubt as to the nature of the affection.

Mr. Bree remarked upon the extreme rarity of this form of carcinoma, Scarpa having denied its occurrence, and only one case being recorded by Dr. Walsh, in his excellent work, which was quoted from a Dublin journal.—*Prov. Med. and Surg. Journ.*, July 12, 1848.

53. *New mode of treating Deafness arising from destruction of the Membrana Tympani.*—Mr. YEARSLEY mentions (*Lancet*, July 1) a simple means of remedying the loss of the membrana tympani with which he became accidentally acquainted through the instrumentality of a patient. This consists in inserting a small portion of cotton-wool moistened, into the meatus, and passing it with a probe to the site of the missing tympanum. He relates two very astonishing instances of the improvement in hearing thus accomplished. The remedy is a simple one, and its usefulness or fallacy will doubtless soon be amply ascertained.—*Prov. Med. and Surg. Journal*, Aug. 9, 1848.

OPHTHALMOLOGY.

54. *Symptomatic Prominence of the Eyeball.*—Mr. PILCHER related to the Medical Society of London the following cases:

While in attendance upon Mr. P——, in December, 1846, my attention was directed to Master P——'s left eye, which certainly was more prominent than the other, yet without approach to strabismus. He is a very delicate boy, aged thirteen years and a half, of small stature, very largely-developed head, pale and thin, appetite fastidious and rather large; bowels generally torpid, as usual in persons of this diathesis, where the nutrition is by no means proportioned to the food received. He had closely applied to his studies during the previous year or two, especially to drawing, and that a good deal by candlelight. I could not detect any diminution in the power of vision; the pupil acted, though somewhat sluggishly, as well as the opposite. He expressed himself quite well in every particular. In consequence of these negative symptoms, I was inclined to believe that the projection of the eye was congenital; his digestion was imperfect. He took mercurial aperients, with regulated diet, and the prominence subsided in about a week. On April 17th, 1847, he returned from school, complaining of pain in the left eye and forehead. He had been over-fatigued during the last month or more, by walking twice daily to and from school, and had been also overworked at his lessons. He took an aperient, and was much better on the next day. On the ensuing day he became seriously ill, and necessarily confined to his bed; he vomited so constantly as to reject all medicine, and, indeed, food. Cramps in the arms and legs, and to a less degree over the body generally, were most painful; the left eye projected much beyond the other. I saw him in consultation on Tuesday evening, and found—as far as my recollection will serve me—these conditions:—The surface of the body rather cold; the fingers and hands spasmodically flexed, the forearm less so; imperfect volition in the shoulders; the lower extremities affected in the same manner, but to a less extent; vomiting very constantly whenever food or medicine was taken, and that attended with painful cramps or spasms of the upper part of the abdominal muscles, and, probably, of the diaphragm; bowels had not been relieved for twenty-four hours or more; urine natural; pulse slow, full, and perhaps a little labouring, about 40; respiration corresponding; intellect quite correct and clear; the left eye considerably projecting beyond the orbit, and very noticeable in contrast with the other; the upper lid depressed; great intolerance of light; pain in the forehead and eye, and generally on that side of the head. It is difficult to say whether the globe of the left eye was not larger than the right, or whether that appearance was entirely dependent upon its prominence; the axis of the eye was correct; the transparent media were quite clear; no increased vascularity; he could detect not only light from dark, but large objects that intervened between the light and his eye, but could not distinguish what they were. The treatment consisted in allaying the irritability of the stomach by a counter-irritant over its region, effervescing salines in small quantity, and I think, hydrocyanic acid; afterwards mercurial purgatives

and blisters to the left temple. On Thursday, the second day after my first visit, the sickness was relieved; he had passed two or three dark evacuations, and he was a little improved in every particular; but the affection of the eye and head was nearly the same. I saw him every other day for about a fortnight, during which time he gradually improved, with occasional interruptions. The treatment essentially consisted of mercury, in the form of mercury and chalk, two, three, or four times a day; counter-irritation, by means of blisters to the affected side; aperients of rhubarb, castor-oil, &c., which were frequently required. In the progress of the case, the appetite, which at first was entirely lost, became so considerable that it was requisite to limit the quantity of the food. The first symptom that subsided was the irritable condition of the stomach and bowels, then the spasmodic affection of the limbs: the pain of the head improved, and gradually the eye became less prominent, less painful, and the function amended, but was not quite restored; as the other symptoms subsided, the pulse rose to its natural standard. The little patient was confined to his bed-room for six weeks, and to the house for two months, during which period he continued to take the mild form of mercury, which did not affect the gums, nor in any way inconvenience him. His eye slowly and gradually improved until he went into the country, which he did somewhat earlier than perhaps was quite prudent.

This young gentleman experienced a third attack in September last, upon which occasion I did not see him, as the affection soon passed off. The left eye then also projected, and the sight was deteriorated. He was at this time labouring under influenza and enlargement of the cervical glands, which required medicines and confinement to the house, and under this regimen the disorder of the eye subsided. It is interesting to notice that he had again returned to his studies, and to exposure, though not to the same extent as formerly. His general health is now quite good; a dimness of vision still exists in the left eye, unappreciable to himself upon ordinary occasions, but evident when experimenting with the right eye closed. It may be an important circumstance in deciding the pathology of this case, that an artist, in taking the portrait of this boy many weeks before his first illness, observed, and expressed in his painting, a peculiar stare or unnatural expression of the left eye, to which the attention of his parents and friends had not been previously directed.

I suppose it will be at once conceded, that the affections of the digestive, respiratory, and circulatory organs, were secondary to, and consequent upon, that of the brain; and whatever it may be imagined was the condition of the central nervous system, it will perhaps be as readily allowed that it was sympathetic of that of the eye or orbit; it therefore remains to be decided whether the affection originated in the globe of the eye, which, enlarging, projected forwards in the only yielding direction; or in the other tissues contained in the orbit, the tumefaction of or deposit in which protruded the eye.

Master F. C——, aged about four years, having had scarlet fever, which passed off mildly, was soon afterwards attacked with measles, which was unusually severe. This was followed by erysipelas on the face and head; two days after which he had severe pain in the left orbit, forehead, temple, and head generally; the left eye protruded greatly beyond the orbit; the lids were closed and stretched over the globe; the pain produced by examination was successive; general fever very high, with delirium. I saw him, with Mr. Chaldecott, on the 16th of April, 1845, the day following the accession of these symptoms. The conjunctiva was very florid and injected; the cornea dull, approaching to opacity, and resembling in appearance the dead eye when squeezed. He could most probably distinguish light from darkness; but we could not ascertain that he retained the function of sight, though the pupil acted sluggishly. Mercury and chalk, in small and frequently-repeated doses, was administered with aperients, as required, and evaporating lotions to the head, eye, &c. The bowels were soon affected by the medicine, and the mouth also in four days, when the prominence of the eye diminished, with a corresponding lessening of the other symptoms. The bowels were so far influenced as to produce some little alarm. The mercury was continued, in modified doses, from the 16th to the 25th of April, when he took some mild tonics; and eventually he completely recovered. A peculiar expression continued for some few weeks; but Mr. Chaldecott reports that three months after the attack the

patient was quite well in every respect, the function and natural appearance of the eye having been perfectly restored. He regarded the pathology of the case to be effusion of serum in the cellular tissue of the orbit behind the globe, which it pushed forwards; and that the necessary pressure produced semi-opacity, or approach to a nebulous appearance.—*Lond. Med. Gazette*, June, 1848.

55. *Ophthalmia Neonatorum.*—Mr. Wilde, in his extremely interesting "*Report on the Progress of Ophthalmic Surgery,*" in the number of *The Dublin Quarterly Journal* for May last, remarks, "In this disease it is said that a new membrane is generated upon the surface of the conjunctiva, in the same manner that adventitious membranes are thrown out on the lining of the larynx, and upon that of the pharynx and isthmus faucium in diphtherite; and this, it is said, is what causes the rapid destruction of the cornea in these cases. The existence of this membrane is yet problematical. The conjunctiva is not prone to effuse lymph upon its external surface, but probably, under certain circumstances, it may do so. A case has lately been recorded by M. Bouyson, in which, during an attack of very severe purulent ophthalmia, a series of pseudo-membranes were formed upon the chemosed conjunctiva, which protruded between the lids; but in this instance the conjunctiva had been previously incised to relieve the distension, and we are not quite sure that the effused membrane was not poured out from the cut surface of the mucous membrane. The lining of the mouth occasionally pours out lymph in large quantities, so does the external surface of the membrana tympani and the distal extremity of the external auditory passage, and it is possible that the mucous membrane of the eye may do so likewise; but the matter requires further investigation. M. Chassaignac, the discoverer of this pseudo-membrane (so called) in purulent ophthalmia, recommends the continual irrigation of the eye, by what he terms *Ocular Douches*, in order to wash away the membrane as often as it is produced. To effect this the child is laid upon a table, while a small stream of water* is made to play on the eyes, for several minutes together, frequently during the day. This mode of treatment is not so novel as the French surgeon believes. In the Dublin Lying-in Hospital, many years ago, the nurses of certain wards became so famed for their good management of purulent ophthalmia, that whenever a severe case of this description occurred in the institution it was immediately transferred to their care. The management consisted in the continual removal of the discharge, and the frequent cleansing of the lids by means of a fine sponge and lukewarm water. The plan pursued was to lay the child across the knees, and to let the water pour out from the sponge over the eyes, the lids of which were held gently apart.† M. Chassaignac likewise informs us that these douches have been found highly efficacious in the removal of corneal opacities which had resisted the ordinary methods of treatment. The projection of a stream of water of different temperatures against the eye, both as a means of cleansing it from impure discharges, and as a most grateful method of relieving pain and irritation, has been employed in the Ophthalmic Clinique in Vienna since the days of Beer. We have lately established douches of this description in St. Mark's Hospital, and as we think they will be found highly efficacious in similar establishments elsewhere, and should be employed in every hospital where diseases of the eye are treated, we give the accompanying description. Moreover, by this means the possibility of conveying infectious matter from one patient to another, by means of sponges, &c., will be in a great measure avoided. A zinc or tin cistern, capable of holding from three to four gallons of water, is fastened to the wall of the ward or waiting-room. It is open at the top, to allow of its being filled, but closed by a well-adapted lid, in order to exclude all impurities. A funnel-shaped zinc tube, furnished with a fine strainer, is attached to its bottom. This ends in a pipe of quarter inch bore, which is also fastened against the wall, and bent into a curve. This is furnished with a stop-cock, and its extremity is so constructed as to permit of several descriptions of tubes and roses being attached to it. This curve is about three feet and a half

* Revue Médico-Chirurgicale, September, 1847.

† See Dr. Evory Kennedy's paper upon the Purulent Ophthalmia of Infants, read at the meeting of the British Association in Dublin, in 1835.

from the ground, so that a person of middle stature may be within reach of the jet of water when stooping his head over it. Below is a zinc basin furnished with an ordinary plug and waste-pipe, into which the water falls, and which may be also used as the usual washing basin of a ward. The cistern can be filled with either hot or cold water as the occasion requires, and in large establishments it may be connected with the ordinary forcing apparatus. The strength of the stream or jet can be regulated by the stop-cock."

56. *Scrofulous Ophthalmia.*—The irritability of the Schneiderian membrane in this disease, and the sneezing and other phenomena which it so frequently presents, are well known to every practical surgeon, yet, until lately, the actual condition of the mucous membrane lining the nose has not received much attention. M. Morand has lately directed particular notice to this circumstance. He says: "In scrofulous ophthalmia the olfactory membrane participates with the conjunctiva in the inflammation that is set up; that it is especially about the turbinate bones, and in the anfractuosities of the nasal fossæ, that the inflammatory action resides; and that this shows itself in the form of an œdematous engorgement, precisely similar to what is observed in the eyelids. The more I study this disease, the more convinced am I that this is the case. A little attention suffices to show that the redness and tumefactions of the pituitary membrane almost always precede or accompany that of the conjunctiva. This can be more positively determined by means of the speculum auris. On examining attentively the interior of the nasal fossæ, one cannot fail to observe that the redness and swelling of the nostrils, and even of the upper part of the lip, that are so commonly observed in persons of a scrofulous habit, are merely an evidence of the inflammatory action going on in that membrane. It is by proceeding in this way that we can best appreciate the degree and extent of this inflammatory action, the extension of which to the palpebral and ocular mucous surfaces is often very rapid; sometimes, however, it remains for a long time stationary, without showing any disposition to extend." For the relief of this disease M. Morand applies the nitrate of silver, either in substance, solution, or ointment, extensively over the surface of the pituitary membrane. The value of this remedy has been extensively attested by Dr. Edwards of Bath, and, according to his experience, with the most decided benefit, even in cases of long standing, and where other remedies had failed.—*Wilde's Report on the Progress of Ophthalmic Surg.*, in *Dublin Quart. Journ.*, May, 1848.

57. *Anæsthesia in Ophthalmic Practice.* By W. R. Wilde, Surgeon to St. Mark's Hospital.—We have, on more than one occasion, both with reference to *ether* and *chloroform*, stated our opinion upon the value of this practice in ophthalmic surgery, and we have given both agents a sufficient trial. In painful or prolonged operations, the removal of an eyeball, the extirpation of tumours, plastic operations on the lids, ectropion and entropion, we have used them with the usual efficacy in such cases. We have not, however, employed chloroform (and ether is more objectionable) in operations on the globe, because it is unnecessary, might in some cases prove injurious, and in several it is inapplicable. In most operations on the globe, a certain amount of volition is necessary on the part of the patient; for instance, in strabismus, after the muscle has been fairly divided, and to all appearance cleanly dissected off the sclerotic, it is possible that some small fibre, particularly at the upper edge of its insertion, may still remain (as indeed we know it often does), and prevent the ultimate perfect success of the operation. Now to assure himself upon this subject, the operator should, as soon as he thinks the muscle has been fairly divided, and all the immediate cause of squinting removed, direct the patient to turn the eye inwards, in order to judge of the result of the operation. If the ability of squinting remains, something further must be done, either by searching for some undivided fibre of the muscle, or applying a ligature, &c., as we directed some years ago. But how are we to judge of this if the patient is unconscious? We do not think the operations for extraction, artificial pupil, reclination, or breaking up of a lens, are at all so painful as to require the employment of an agent to render the subject of them insensible. In extraction we should certainly fear to use it; we generally make the upper section, and the

cornea is usually turned upwards during the use of chloroform; moreover, in this case it is also necessary that the patient should retain such consciousness as will enable him to turn the eye in the different directions required. Suppose, however, we complete the operation with success during the state of insensibility, and that a slight convulsion, a spasm, or a nervous excitability, seizes the patient upon awaking from the state of unconsciousness, prolapsus of the iris, loss of the vitreous humour, and perhaps complete collapse of the eye, may take place in an instant during this struggle, or the patient may, inadvertently, to use popular phraseology, rub his eye out. There may be, however, cases in which a state of insensibility may be beneficial during the performance of such delicate operations.

Dr. Mackenzie recommends the employment of ether (and, we presume, of chloroform on the same principle), in the treatment of various forms of ophthalmia, particularly where there is much photophobia. In the cases where these means were employed, the immediate relief to the distressing intolerance of light was very manifest; but it does not appear to have produced any material alteration in the progress of the disease.* Dr. Smith of Cheltenham has also written on the same subject;† and says that he has employed this means largely to enable him to examine and manipulate on the eyes of young children affected with strumous ulcerations, &c. Dr. Smith very justly remarks, that the state of insensibility is much more easily produced in young children than in adults. We have not, however, experienced such difficulty in the examination of ophthalmic cases, or the application of remedies, as to require the use of the means recommended by this writer.—*Ibid.*

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58. *Corneitis.*—We were somewhat surprised when we read an article a couple of years ago in the *Edinburgh Medical and Surgical Journal*, in which the inflammatory diseases of the cornea were described by the author as if they were unknown to the profession; and our attention is again directed to the subject by a lengthened review of Desmarres' book, which has recently appeared in Dr. Ranking's Abstract, in which the writer states that the French oculist's description of punctiform corneitis is so novel that it has been given in a condensed form in the extracts published in that work. Desmarres enumerates a superficial and deep-seated form of this disease, but it is unnecessary to enter at any length into his descriptions. The disease consists in inflammation and consequent thickening and opacity of the membrane of aqueous humour lining the back of the cornea, and extending to the membrane of Descemet, in which the inner surface of the cornea presents a speckled or dotted opacity, as if sprinkled over with a fine bluish-white powder, and which is most easily recognized by examining the cornea in profile, by which means we assure ourselves that the laminated, external elastic, and conjunctival layers of the cornea are not affected. This disease more frequently spreads to the substance of the cornea than to the iris. It is a form of inflammation well known to those who treat diseases of the eye upon a large scale, and has been frequently described by English authors. Mr. Tyrrell has described it under the name of aquo-capsulitis; and to his description, as it happens to be that which is now nearest to our hand, we would refer the reader of the work to which we have just alluded.—*Ibid.*

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59. *Ulcers of the Cornea.*—In penetrating ulcers of the centre of the cornea, with prolapsus of the iris, we are told by M. Desmarres that we should not despair of the reduction of the iris unless gangrene of that part has set in. Now what gangrene of a portion of protruded iris may be, we confess we are ignorant. While the term hernia is not inaptly applied to this peculiar state of the parts, the surgeon must not suppose that all the changes which take place in a portion of strangulated intestine occur in the iris. When a portion of the iris has protruded through the cornea, either from a wound or ulceration, and become there adherent, the protruding portion of it is not got rid of by gangrene, and it frequently requires to be removed by excision after days and weeks of irritation. For prolapsed iris Desmarres recommends the patient to be kept in a recumbent position, with the

* Medical Gazette, June, 1847. † Idem, October 15, 1847.

head low, and iced infusion of belladonna and hyoscyamus to be applied with light compresses to the eye, and a drop of the same liquid distilled between the eyelids every five minutes. We strongly object to this opening of the eyelids every five minutes, as we conceive nothing more likely to increase the protrusion than this very proceeding. We must here again refer to our observations upon the use of atropine, published in the fourth number of this Journal for 1846. We still believe that the best thing which can be done in penetrating ulcers of the centre of the cornea is to touch the rupture with a weak solution of nitrate of silver applied with a fine camel-hair pencil (but if the iris has protruded, it is better to omit this); then to drop into the eye a strong aqueous solution of atropine; to close the lids carefully with a strip of isinglass plaster extending from the forehead to the cheek; to apply the extract of belladonna plentifully in the usual manner all round the external parts; to lessen congestion and inflammation by local depletion, such as cupping or leeching, &c., and to relieve whatever other urgent symptom may present; to confine the patient to bed or the recumbent posture; to enjoin extreme rest, and not to meddle with the eye for forty-eight hours at least. There is a gentleman of our acquaintance who suffered from violent ophthalmia many years ago. His left cornea is quite irregular upon its external surface, and is apparently thinned from previous ulceration. He has had several attacks of sclerotic inflammation, with slight superficial ulceration of the cornea, in both eyes. Upon each occasion the left cornea gave way during a fit of sneezing, coughing, or some similar sudden exertion. The aperture was not like that formed by a penetrating ulcer, but was a rent or tear upwards of a line in length, extending across the transverse diameter of the cornea. On two of the occasions the iris protruded, and once a portion of it had prolapsed for several hours before I saw it: yet by the treatment above described, he recovered perfectly, with a slight brown mark left by the pigment of the iris upon the back of the cornea.

The transparent ulcer of the cornea has been long known and described; in some instances, however, we are unable to detect it when we examine the cornea in front, and only become aware of its existence by observing it in profile, or making the patient roll the eye about. There is, however, a symptom attending this form of ulcer with which we have been long acquainted, and which has not, that we are aware of, been heretofore described; it is the dark shadow thrown upon the surface of the iris by this ulcer, be it ever so transparent or so small, particularly when the patient stands opposite the light. At first view, this shadow, which is generally a dark circular spot through which the natural colour and striæ of the iris can be seen, appears like an ordinary congenital mark, but from this it can be distinguished by turning the head or eye from side to side, when it will be seen to shift its place on the surface of the membrane.—*Ibid.*

60. *Cure of Cataract by Suction.*—Notwithstanding the established opinions with regard to the most approved methods for removing or displacing the lens, and the recorded experience of the most scientific and practical ophthalmic surgeons upon the subject, we yearly read of new methods of operating, as well as other means, in the shape of medicinal agents, extolled for the removal of cataracts. When we find practitioners subjecting patients with established cataracts to a course of treatment both local and general, we are greatly inclined—to use no harsher term—to question their experience, and when we find men proposing new methods of operating, such as cutting out a cataract through the sclerotic, and advising depression or breaking up indiscriminately, in preference to extraction through the cornea, we are very much inclined to doubt their capability of performing that dexterous operation. M. Blanchet has lately promulgated a new method of operating upon soft cataracts, which he denominates the operation of suction (*par suspiration*). The pupil having been dilated with belladonna, he punctures the cornea with a large cataract needle toward its circumference, in order that the opacity which follows may not occur in the field of vision. Through this opening he introduces a small tube with a flageolet-like mouth, attached to an Anell's syringe, with which he pierces the capsule of the lens, and if the cataract is soft, he pumps it out through this tube by working the piston of the syringe: but if, on the contrary, the lens is hard, or the capsule dense and opaque, he then has recourse to

depression!* Such is the statement which has been vaunted in all the foreign journals as a discovery in ophthalmic surgery, but which must raise a smile on the face of every well-educated or experienced practitioner. In the first place, any thickening or opacity of the capsule should be discovered before an operation is commenced; and although the actual amount of softening—whether the lens is absolutely fluid, or is of its natural consistence as in a young healthy person, or as soft as ordinary starch made for washing—cannot always be determined upon before the introduction of a needle, still it can in most cases be decided with tolerable accuracy beforehand. If the lens be fluid, to attempt this suction is a most unjustifiable, as well as most unnecessary procedure; for the simple introduction of a needle through the cornea, and the laceration of the capsule, will allow the fluid to become diffused with the aqueous humour, in which case it will sometimes be absorbed in the space of a few hours. Every operator of experience well knows, that, even in those cases of fluid cataract, it is necessary to lacerate both the anterior and posterior capsules freely. If this is not done they will, though not previously opaque, become so very shortly; and while the substance of the lens is absorbed, both capsules will adhere, and become remarkably opaque, often remaining in such cases like a piece of egg-shell, held behind the pupil by a very thin semi-transparent membrane. And as these will not absorb, and can with great difficulty be depressed, it is frequently necessary to remove them through an incision of the cornea. Now the very wound made by M. Blanchet's suction pump is just the thing to produce this opacity; moreover, there must be a greater violence and injury done to the eye by this complicated process, than even by the roughest attempts at breaking up, whether through the cornea or sclerotic. In a case of congenital cataract in a young woman aged 18, upon whom we operated last year, and of which an account will be shortly published, this peculiar phenomenon occurred. Upon drawing the cutting edge of the needle across the anterior capsule, its fluid contents immediately burst out, and mixed with the aqueous humour, rendering the latter the colour of skimmed milk, and completely obscuring the iris. Having placed a bandage upon the right eye, we then proceeded to operate upon the left, when the same phenomenon occurred. In the space of about four or five minutes we removed the bandage from the eye first operated upon, when lo! the entire opacity had disappeared, except a few specks which remained on the torn capsule, and nothing was to be seen in the anterior chamber but a few grains of a white powdery substance at the junction of the iris and cornea beneath; and then upon looking at the other eye, the same clearness was found to have taken place there also, and imperfect vision (for the patient had never seen before) was found to be established. Now we can only account for this rapid removal of the milky state of the aqueous humour, by supposing that the heavier particles which formed it subsided, and, falling through the dilated pupil (for the patient was in the recumbent position), had deposited behind the iris, as a mixture of flour and water will do, if allowed to remain undisturbed; or that some chemical action had occurred between the salts of the aqueous humour and the opaque particles of the cataract.—*Ibid.*

MIDWIFERY.

61. *Dropsy in Pregnancy.*—The Nos. *Archives Générales de Médecine* for Feb. and March 1848, contain an elaborate article on this subject, by Drs. Devillier and Regnauld. They consider a deficiency of albumen in the blood during pregnancy to be the chief predisposing cause of dropsical effusion. They state, as the result of twenty-five analyses of the blood, that, instead of the normal proportion of 70 parts of albumen in 1000 of the blood, there existed but 68.60 parts during the first seven months of gestation, and only 66.4 parts in the last two months: thus, that there is a difference of 4 parts in 1000 between the blood of an unimpregnated and of a pregnant woman, without any loss of albumen by the urine. The experimenters

* Revue Médicale, for August, 1847; and Journal des Connaissances Médico-Chirurgicales, p. 109.

therefore concur in the opinions of MM. Becquerel and Rodier, and in the general proposition of M. Andral, that a deficiency of albumen is the only constant change in the blood necessarily associated with dropsy. The following principles are laid down:—1. That the proportion of albumen is notably lessened during pregnancy; 2, that the decrease which this material undergoes is gradual; 3, that the minimum exists during the last months of gestation.

The cause apparently most active in producing the dropsy is the impediment to the circulation resulting from the pressure of the enlarged uterus; and hence effusion first shows itself in the ankles and legs. That such pressure is not, however, the sole cause of œdema, is shown by the fact, that a direct relation between the size of the uterus and the amount of effusion is frequently unobserved. As proof of accidental circumstances, such as prolonged standing or sitting, or continued pressure on the abdomen, as impeding the circulation and of causing œdema, may be derived from the relative frequency of dropsical effusion in persons of easy and luxurious habits, as compared with the same individuals obliged to labour hard; the former are incomparably the more liable, even under identical conditions of the uterus. It follows, therefore, that the dropsy is due to other causes than those acting merely mechanically, and interfering with the return of blood; although the influence of the latter is shown by the variations the dropsy will undergo by changes of position of the body, and of the form and inclination of the uterus. The effusion makes its appearance, in nearly one half of the cases, between the seventh and the end of the ninth month of pregnancy; but it often shows itself from the fourth to the sixth month; and we are sometimes surprised to see its existence as early as the third month. In these latter cases it has, however, been observed, that the vessels have been greatly developed, and more particularly the veins, and that the evident difficulty in the circulation produced, at this period, the appearance of varicose swellings and serous infiltration. The œdema may pursue an acute or a chronic march; developing itself in one or two weeks, when gestation is far advanced, or gradually manifesting itself during the last three or four months; a difference depending on general and local conditions of the organism and the state of health. It has been said that the disappearance of the dropsy frequently coincided with the development of puerperal disease, and that puerperal fever was the result of a metastasis of the dropsy. But M. Devillier comes to the conclusion that the dropsy may pursue its course, whether retrograde or progressive, notwithstanding the manifestation of puerperal disease; and that puerperal maladies do not, either in their production or in their effects, present anything which can explain the transport of effusion into serous or visceral cavities. Thus, it is impossible to attribute, with M. Vasseux, to the metastasis of œdema, those grave accidents such as cerebral compression or pulmonary œdema, which so often end in the death of parturient women. In the way of treatment, rest in the horizontal posture, the avoidance of fatigue and constipation, with diuretics, are recommended in the slighter cases. In more severe forms of dropsy, and where plethora exists, bleeding; the employment of baths, vapour and hot, and of frictions; and if there be chlorosis, ferruginous tonics are suitable.

62. *On Phlebitis of the Brain and Meninges in Puerperal Women.* By Dr. F. M. Ducrest. (*Archives Générales*, Nov. 1847.)—According to the author, this affection in puerperal women is of rare occurrence, only five instances of it having occurred among 259 cases in which the head was examined after death. In one of these instances, the affection was not accompanied by any other cerebral disease; in the others, it occurred in combination with cerebral or meningeal inflammation.

The first case was a woman, æt. 19, presenting the appearance and physical signs of phthisis, who was delivered of a male infant at the eighth month, and afterwards became affected with frequent pulse, and a peculiar tremulous motion of the eyelids, lips and tongue. At first, there was no other symptom; but on the seventh day after delivery, there was an increase of the affection, with delirium, headache, and some convulsive movements of the limbs. On the ninth day the pulse and respiration were accelerated, jaws locked, tongue dry, articulation imperfect, but intelligence apparently unaffected. There was great feebleness of all the limbs, and nearly complete paralysis on the left side. In a few hours the

pulse fell to sixty, the respiration became slow and laboured; soon after she died. On dissection, the meninges were perfectly healthy; the cerebral hemispheres also healthy: but on section of the right side of the pons varolii, and the cerebral and cerebellar peduncles of the same side, the vessels in the interior of these parts were found distended to the size of a large pin by firm, dark clots, which, when extricated, appeared as dark brown cylinders of above a centimetre (nearly half an inch) in length. Around these, the cerebral substance was of natural colour and consistence. The lungs were extensively tuberculated, and contained numerous caverns. On the right side of the uterus was found a quantity of pus, surrounded by a slate-coloured induration of the substance of the organ, two millimetres (one line) in thickness.

The second case was that of a woman, æt. 25, who was delivered naturally, but soon after was seized with pains of the hypogastrium and limbs. These were followed by shiverings, fetid diarrhœa, and colic pains. The milk was suppressed, and leech-bites on the abdomen suppurated. On the ninth day, the pains being mitigated, she had severe cough, with crepitant rale at the posterior and lateral parts of the right lung. From the fourteenth to the seventeenth day, the right buttock swelled, and became the seat of lancinating pain; a large quantity of pus, with fetid gases and sloughs of cellular tissue, were evacuated by incision. In the meantime there had been watchfulness and delirium, with gradually increasing loss of intelligence, and moderate cephalalgia. She died on the twenty-seventh day. The pulse varied between 108 and 140, and the respiration between 28 and 48. On dissection, there was considerable subarachnoid effusion; the veins of the pia mater, on the convexity of the right hemisphere, were filled with firm, friable adherent clots, of a whitish colour, extending in some places into the cortical substance, and being darker in colour there and in the anfractuosities. The cortical substance was somewhat softened, and of a reddish colour; white cerebral substance not altered. The lungs contained some tubercles, and the lower lobe of the right lung was the seat of lobular pneumonia; several of the vessels were filled with partially-softened clots. The venous sinuses and lymphatics of the uterus were filled with pus; the broad ligaments were also infiltrated with pus. The cellular tissue between the sacrum and the left great trochanter was gangrenous, and full of pus.

The third case presented successively hypogastric pain and tenderness, with numbness and painful swelling of all the extremities, beginning with the right arm, in which she had been bled. The cerebral symptoms and progress of the case were very similar to the last case, with the additional symptoms of vomiting before death, which happened on the seventeenth day from delivery. On examination, the veins of the right arm were swelled, and filled with pus; the left lateral sinus of the dura mater contained a light-coloured clot, and the veins of the posterior and inferior parts of the left cerebral hemisphere entering into this sinus were distended with dark blood firmly coagulated. There was extensive softening of the posterior part of the left hemisphere, which contained in its vessels numerous small clots. The vessels of the uterus contained pus, as in the last instance.

The fourth case commenced two days after delivery, with intense headache, convulsions, and transient stupor. On her removal to the hospital, the headache continued, with slow, troubled utterance, tenderness of the abdomen, and fever. She was bled, and the blood presented no buffy coat. An hour afterwards she had a convulsion, in all respects like an epileptic attack, with coma, lasting for a quarter of an hour, and up to the morning of the next day, she had twelve nearly similar convulsions. The abdominal pain continued, and she had a shivering. The fourth day after delivery there were immobility, insensibility, and a contraction of the right limbs, with perpetual agitation of the left, afterwards plaintive cries, coma, stertor, resolution of the right limbs, continued agitation of the left: pulse irregular, 140. Death occurred next morning. On examination, there were clots in the sinuses of the dura mater, and ecchymosis on the surface of the left hemisphere; the vessels of the pia mater in the neighbourhood of this ecchymosis, contained reddish clots; the pia mater, both externally and in the ventricles, infiltrated with pus. The lungs contained miliary tubercles. The cavity of the

pelvis, and various parts of the peritoneal cavity, contained pus; the uterine tissue was healthy; some clots of blood were in the venous sinuses.

The fifth case occurred in a subject affected with extensive pulmonary disease, who was seized with headache, and most of the symptoms mentioned in the first three cases, while yet undelivered, though at the full term of pregnancy. The morbid changes were in great part similar to those previously described; but the amount of softening of the cerebral substance was greater than in any of the others, and the number of veins occupied by the firm coagula smaller; so that this case seems more important, in reference to the peculiarities of the disease, than any of the preceding.—*Ranking's Abstract*, vol. vii.

63. *Kiestein as a Test of Pregnancy.*—Dr. Golding has published an elaborate paper, in which he seeks to establish the just value of this sign. He commences by noticing in turn the several indications usually relied upon, as auscultation, state of the breasts, suppression of the menses; and he proceeds to the consideration of kiestein in a series of sections, embracing the several questions of interest connected with its formation.

The presence of the sound of the fœtal heart is, of course, the most unequivocal sign of pregnancy; but this is only available after the fourth month. The placental souffle he shows to be less trustworthy. Of the state of the breasts, he observes that no indication can be more equivocal. His conclusions on this point are as follows:—

1st. These conditions are equivocal after first pregnancies, seeing that the areola has undergone changes in colour, is increased in size, and has its follicles enlarged; these states remain permanent, though if the mammæ be observed during subsequent pregnancies, these characters may be better marked; it is only comparison, therefore, that will avail for practical elucidation.

2d. If the changes induced by utero-gestation are permanent, diseases of the uterus, by affecting the breasts sympathetically, may induce congestion and other changes in them, similar if not identical with those produced by pregnancy.

3d. In some rare instances, the changes described by Dr. Montgomery are absent even in first pregnancies; the areola remaining unchanged, and the mammæ flabby, till the commencement of lactation.

4th. In persons of fair complexion, the areola may be increased in extent, and have its follicles hypertrophied, without material change of hue.

5th. In those of dark complexion, the areola is naturally of a darker colour, and has its follicles better developed than in fair persons.

6th. During functional derangements of the uterus, the breasts have been noticed to undergo changes not readily distinguishable from those existing during gestation.

In drawing practical deductions from the suppression of the menses, Dr. Golding takes the following circumstances into account:

1st. Whether or no the cause of suppressed catamenia during utero-gestation be due to impregnation; or to other causes, in which, however, certain of the phenomena also attending pregnancy co-exist.

2d. That in some females, the menses are not suppressed during pregnancy or during lactations. The menstruations occurring under such circumstances, whether uterine or vaginal, and whether dependent upon normal or abnormal causes, is attended with the same physiological effects, as in ordinary menstruation, both during its occurrence and accidental suppression.

3d. Any functional derangement of the uterus or other organ reacting upon that viscus may so affect it as to cause suppression of the menses.

4th. Sometimes the menses, though apparently, are not suppressed, being secreted, but not evacuated. The retention may cause vomiting, enlargement of the abdomen, sympathetic affections of the mammæ and stomach, with other effects also concomitants of the gravid uterus.

5th. That however strong a presumptive evidence of pregnancy cessation of the menses may afford, it can never be certain evidence, unless corroborated by auscultation, or the indications afforded by the urine.

After thus discussing the usual signs of pregnancy, and showing the inconclu-

siveness of each under certain circumstances, the author next proceeds to the main object of his communication, the value of kiestein as a test.

The chief value he shows to consist in its being available during the whole period of gestation; in its existence alike in first and subsequent pregnancies; its being uninfluenced by the age, temperament, or habits of the female; its being found in pregnancy alone, and disappearing during lactation. When this coexists with amenorrhœa, Dr. Golding looks upon it as the only conclusive evidence of pregnancy before the fifth month.

In his investigation of the cause of kiestein in the urine, the author examines it under two aspects; 1st, as a secretion of the mammary glands; which are eliminated from the kidneys, not as yet being required for the nutrition of the fœtus; 2d, in its identity with milk. He then inquires under what circumstances its presence is most conclusive of pregnancy; what is the reason of its inconclusiveness, and whether kiestein is ever absent in pregnancy, and if so, whether it is really absent or only obscured by other matters?

The pellicle is determined by him to be most conclusive of the existence of pregnancy; when the maternal and fœtal systems are in a healthy condition respectively, it is then rarely absent. He recommends that, in searching for it, the urine examined should be that voided some hours after a meal. Sediments of lithates render the appearance more or less obscure, and therefore the most favourable conditions for finding the pellicle are the healthy state of the mother and fœtus, a non-sedimentary state of urine, and its alkaline reaction.

The reasons of the inconclusiveness of the appearance of the pellicle as a test of pregnancy are thus summed up by the author.

The kiestein, viewed as a secretion from the mammary glands eliminated by the kidneys, is influenced, as other secretions, by those conditions of the system which derange assimilation generally. Such agencies may diminish or entirely suppress the secretion of kiestein; when diminished, it forms a scanty scum on the surface of the urine, or may be entirely absent as long as the general derangement lasts. A plethoric state of the system also, in which the red lithates abound, influences the secretion of kiestein. The pellicle may be absent while the lithates exist, or be so scanty as not to form a uniform film. The yellow lithates do not interfere with its formation to the same extent.

On the question whether kiestein is ever absent throughout the utero-gestation, the author comes to the conclusion that it is occasionally absent, but only temporarily. He does not think that it is ever absent throughout the whole period of pregnancy. The general conclusions derived from his observations are as follows:

1st. Coetaneous with, or shortly subsequent to conception, the breasts assume a secreting action; the product of which, eliminated by the kidneys, forms kiestein.

2d. If this action of the mamma be disturbed, it is the result of disease, and may be removed by appropriate treatment.

3d. Kiestein, though not apparent, may still not be absent, but may exist in such small quantities as not to be appreciable.

4th. The essential characters of the pellicle are its iridescence, fatty nature, and cheesy odour. It also prevents the urine becoming putrid for some time.

5th. As the secretion of kiestein is a vital phenomenon, resulting from conception, it is often available before other signs of pregnancy.—*Ranking's Report on Midwifery, &c.*, in *Abstract*, vol. vii. from *British Record of Obst. Med.*, No. 1, 3, 5, 7.

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64. *Colour of the Vagina in Pregnancy.*—Dr. Albert states that of all the signs of pregnancy hitherto known, that derivable from the observation of the dark red colour of the vagina is the best, seen as it is by the aid of a speculum at so early a period of pregnancy, and proceeding progressively with the development of the uterus. He has tested its utility in about 30 cases, and has besides examined, with the same success, a great number of animals at various periods of gestation.—*Brit. and For. Med-Chirurg. Review*, July, 1848, from *Zeitschrift für Gebertskunde*, vol. xxiii. p. 449.

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65. *Observations on the Influence of the Death of the Fœtus in relation to its retention*

in, or expulsion from, the Uterus.—Prof. SIMPSON, at a meeting of the Edinburgh Obstetrical Society, Feb. 9th, 1848, stated that "the general law which regulated the occurrence of labour in relation to the death of the fœtus, was well known to be this—1. That usually, in from one to three weeks after the fœtus died, uterine contractions supervened, and effected its expulsion. But to this very general law there were various exceptions. For, 2. If the embryo died in early embryonic life, and the fœtal appendages continued to live and vegetate, expulsion might not supervene for months. He showed a case of hydatiginous ovum, where the embryo was not larger than an embryo of the sixth week, but the placenta, or rather the chorion, was the seat of hydatiginous hypertrophy and degeneration; and the mother (a patient of Mr. Girwood's, of Falkirk) calculated that she had passed the usual term of utero-gestation, not having menstruated for eleven months previously to the expulsion of this diseased ovum. 3. When the fœtus dies from the third month onwards (in consequence either of disease in its own organization, in its umbilical cord, or in its placenta), and a second twin living fœtus exists at the same time in utero, and this second fœtus continues to grow and keep up a correspondence of development between the organ and its contents, the dead and undeveloped twin may be retained up to the full term of pregnancy, and be then born along with the other living and full-sized child. 4. When the dead fœtus is thus retained, it is preserved free from the decomposition usually following death by all access of air to it being prevented. Sometimes it retains its usually rounded appearance and form if it continues to be surrounded by a sufficient quantity of liquor amnii; but in other cases where this protecting medium of liquor amnii is defective, the fœtus becomes gradually more and more squeezed between two forces,—viz. the parietes of the uterus on one side of it, and the other living twin or its membranes on the opposite side; and at last, when born, it is found compressed and *flattened* in form. Two such flattened fœtuses are in the University Museum; and many such cases are on record. 5. The birth of such undeveloped dead twins had sometimes given rise to most groundless and erroneous ideas of the existence of superfœtation. 6. Occasionally when one of twins died early in pregnancy, it was after a time expelled (when it happened to be situated near or over the os uteri); afterwards the uterus closed, and pregnancy went on to the full time with the remaining living child. He mentioned a case of a lady aborting of a fœtus about the third month, going on in pregnancy to the full time, and then being delivered of twins; having originally conceived of triplets. 7. This last circumstance evidently led to the practical deduction—that when a dead fœtus in its envelopes was expelled during the currency of pregnancy, and the uterus notwithstanding still remained large and apparently distended, its further contents should not be in any way interfered with; but rest and other means employed to avert the excitement of any additional uterine contraction, under the hope that a living twin might still be retained, and be carried onwards to the full term of utero-gestation.—*Monthly Journ. Med. Sci.*, May, 1848.

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66. *Epidemic Abortion.*—Dr. SCHWEICH observes that a great number of abortions occurred at one time in his practice very near to each other, the women not having been heretofore liable to the accident, nor yet exposed to any exciting cause of its production. He is disposed to refer them to atmospheric causes, such as are capable of inducing epidemics. The winter had been warm and wet, and the spring dry, thus offering a confirmation of the aphorism of Hippocrates, "*At si hiems austrina, et valde pluvia, et placida fuerit, ver autem plus justo siccum et aquilonium, mulieres quidem, quibus partus ad ver imminet, ex quâvis causâ abortiunt.*" Witte, too, states that, under the same circumstances, numerous abortions occurred at Jena in 1686.—*Ibid.*, from *Casper's Wöchenschrift*, No. 7.

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67. *Excessive Itching occurring during successive Pregnancies and producing repeated Abortions.*—M. MASLIEURAT LAGEMARD relates, in the *Gazette Médicale*, a very remarkable case of this character. The subject of it was a female of small stature, and of a nervous temperament, having a fair and beautiful skin, without any appearance of eruption. She became pregnant for the first time at the age of twenty-one, and everything went on regularly until the sixth month, at which period a smart itching came in the skin over the whole body. This by degrees became

more severe, and towards the eighth month it became insupportable, particularly in the palms of the hands and over the abdomen, obliging her to scratch herself furiously, and finally this brought on the expulsion of a dead child. Throughout all this the skin remained fair, transparent, and without the least appearance of any eruption; immediately the child was expelled, the itching ceased, as if by enchantment. Some time after this she again became pregnant, and again, about the sixth month, the itchiness of the skin began, and by degrees acquired an extreme intensity, occasioning the expulsion of a dead child in the middle of the eighth month. She was scarcely delivered when the itchiness ceased. In the third pregnancy nothing particular occurred for eight months and a half, when the itchiness began, but had not arrived at its usual degree of intensity at the ninth month, when her accouchement took place favourably. The fourth pregnancy resembled the first, and she brought fourth a dead child at seven and a half months. The fifth pregnancy resembled the third, and she again was delivered of a healthy child. The sixth, seventh, and eighth, did not differ much from the two first in their character or consequences. In all these pregnancies the itchiness had occupied the whole surface of the body long before it invaded the palms of the hands; and it was only after the palms became affected that it acquired its greatest intensity. In the two instances where she went to her full time, the palms had remained exempt from the itchiness.—*Dub. Med. Press*, June 28, 1848.

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68. *Condition of the Internal Face of the Uterus after Parturition.*—Dr. Colin, in a memoir read to the French Academy of Med. (Aug. 1848) stated, that his numerous researches had led him to conclude in contradiction to the greater number of modern accoucheurs—1. That it is not true that after parturition the muscular textures of the inner surface of the womb are denuded. 2. That a membranous and vascular layer remains even in cases of premature delivery. 3. That layer does not differ from the uterine surface of the decidua. 4. That the vascular remnant not only is not altogether destroyed by suppuration, but becomes the seat of the healing process, by which the uterine mucous membrane is reconstructed; an event which takes place between the twentieth and thirtieth day after parturition, and which is completed only after the termination of the second month following delivery.—*Med. Times*, Sept. 9th, 1848.

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69. *Fracture of the Cranium before Delivery in a Fœtus at the full time.* By M. Blot. —A woman, æt. twenty-seven, who had been in labour for a short time,—having the os uteri somewhat dilated, and the membranes still entire,—fell from a second story, and fractured the right thigh. When carried into bed and examined, the child's head was found low down in the pelvis, and the bones crepitated as if broken in several parts. The child was delivered by the forceps; it was still-born. There was a great effusion of blood below the scalp; the parietal bones were broken into several parts. The dura mater and meninges were unhurt.—*Monthly Retros.*, Sept. 1848, from *Archives Générales de Méd.*, June 1848.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

70. *Crystals of Daturine from the Urine of a Man poisoned by Stramonium.*—The following remarkable case is related by Robert Allan, Staff Surgeon, 2d class, as occurring in the Mauritius. An Indian labourer, named Hitoo, was condemned by the Court of Assizes to ten years' hard labour in chains. He worked very unwillingly for about a month, and was brought into the Infirmary, on the 10th of February, 1846, in a state of insensibility, with stertorous breathing, dry, black tongue, injected conjunctiva and dilated pupils, ranging from 100 to 120. He was said to have eaten stramonium, which grows where he was sent to work that morning, six hours and a half previously.

The stomach-pump was applied, which brought up many entire seeds, and fragments of seeds, of the datura stramonium, but the action of the heart soon became more feeble, and notwithstanding the administration of stimulants, he continued to sink, and died an hour after admission, being about seven and a

half hours after he was supposed to have taken the poison. The heart was felt beating several seconds after respiration had ceased.

The body was examined nineteen hours after death; at which time, there were evident marks of commencing putrefaction (Fahrenheit's thermometer being 88°). *Head.* Great turgescence of the integuments, as well as of the dura mater, tunica arachnoides and pia mater; brain firm and highly injected; the choroid plexus turgid, and the ventricles contained a little bloody serum; there was a small plate of bone deposited in the falx, near the crista-galli. *Chest.* Old, ribbon-like adhesions between the pleura of the left lung, and that lining the cavity of the chest on the anterior part, the substance of both lungs very vascular, in many parts; heart flaccid. *Abdomen.* Liver, spleen, pancreas, bladder and kidneys normal; the stomach contained about four ounces of ingesta, composed of rice, eighty-nine seeds of the datura stramonium, besides many fragments, pieces of manioc and tripe; there was a patch of extravasated blood, the size of a shilling, in the mucous coat of the larger curvature of that viscus, and a smaller patch of extravasation near the pyloric orifice; the whole mucous coat of the stomach was slightly congested, many entire seeds as well as fragments of seeds, of the stramonium, were also found throughout the entire length of the small intestines. About six ounces of urine were collected from Hitoo's bladder at the post-mortem examination, which I submitted to Ossean Henry's process for the detection of daturine (*Journal de Pharmacie*, vol. 21, May, 1835). Several clear crystals were obtained, some being pentahedral, while others were surrounded with a quantity of oily matter, which obscured their shape. Some of these crystals were dissolved in distilled water, and the solution dropped into the eye of a man with lenticular cataract. In half an hour, the pupil was visibly dilated and became very much so, in an hour afterwards. Diluted sulphuric acid was added to some of the product of Ossian Henry's process, and in a few days, many acicular crystals of sulphate of daturine were observed.—*Lancet*, Sept. 18th, 1847, p. 298.

T. R. B.

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71. *Detection of Human Hair by the Microscope.*—At the last meeting of the Microscopical Society of London, Mr. John Quekett, the microscopic demonstrator to the Royal College of Surgeons, read a very interesting paper on the importance of the microscope in the determination of minute structures of a doubtful nature. The author stated that his object in bringing this communication before the society, was to point out how minute portions of skin, which had been exposed to the air for centuries, could be recognized as human. There existed in this country, certain traditions, that persons who had committed sacrilege were flayed, and their skins nailed to the doors of the churches they had robbed, as a terror to the sacrilegists, and three portions of such skin had been forwarded to the author for examination, by Albert Way, the Secretary of the Archæological Society. The first was taken from one of the doors of Worcester cathedral, where now only portions remain underneath the ornamental clamps and hinges. The second specimen was taken from the church door of Hadstock in Essex, where it had been protected for many centuries, by an iron grating; this portion of skin was said to have been that of a Danish pirate, and is supposed to be nearly 900 years old. The third specimen was taken from the church door of Copford, also in Essex. On all the specimens, Mr. Quekett succeeded in finding two or three hairs, which the microscope clearly proved to be human. Thus this valuable instrument is able to confirm a tradition, and prove the former prevalence of a practice which has been doubted by many archæologists.—*London Medical Gazette*, June 9, 1848. T. R. B.

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72. *Noxious Gases in Houses.*—"The noxious products of combustion are carbonic acid and sulphurous acid, with probably a portion of ammonia" (from cyanogen), and unconsumed sulphureted and carbureted hydrogen, with naphtha vapour. It is just as important to carry out of a room the products of the combustion of coal gas, as of coal itself. Faraday's ingenious invention for this purpose is adopted in the new House of Lords, and is now coming into general use. A large portion of the library of the Athenæum Club was destroyed by the acid vapour evolved by the combustion of gas.—*Ibid.*, July 2d, 1847. T. R. B.

73. *Protracted Gestation.*—In the case of Catterall v. Catterall, decided last week in the Consistory Court, in which the husband proceeded against the wife for a divorce on the ground of adultery, the main proof was that a child had been born *twelve* months after the husband had left his wife in New South Wales, for the purpose of proceeding to this country. Dr. Lushington, without entering into the question of protracted gestation, pronounced for the divorce.—*Ibid.*, July 23d, 1847. T. R. B.

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74. *Effect of Poisons on Animal Heat.*—M. Demarquay has proved by a series of experiments on animals, that the heat of the body is diminished by the action of some poisons, and increased by that of others. The poisonous agents which cause a *diminution* of temperature, are the vapour of ether (by inhalation), the cyanide of potassium, corrosive sublimate, arsenic, tartar emetic, muriate of morphia and ammonia. These different substances were injected into the stomach, and the observations then made. The poisons which caused an *increase* of temperature were digitalis, belladonna, croton oil and strychnia. One poison, tobacco, appeared to have no effect whatever on animal heat.—*Ibid.*, July 30th, 1847. T. R. B.

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75. *Dangerous Effects produced by the Bleaching of Lace.*—In the process of manufacture, Brussels lace is liable to become soiled. If it were washed, its value would be reduced; hence the so-called bleaching of this lace is effected by impregnating the fibre with carbonate of lead. M. Blanchet has recently communicated to the Academy of Sciences some cases in which he had observed that the workmen engaged in this manufacture, suffered from an impairment of the senses of vision and hearing. The disease presented all the characters of saturnine paralysis. He visited the manufactory, and ascertained that the lace, covered with the finely-powdered carbonate of lead, was well beaten between sheets of paper. The workmen thus breathed an atmosphere constantly impregnated with the poison. The cause of the symptoms was at once explained.

M. Chevallier had previously called the attention of the French government to the subject. He observed that the workmen were liable to suffer from colica pictonum, and suggested that the disease might also appear as a just retribution in those females who were in the habit of wearing lace so whitened, in contact with the skin.—*Ibid.*, Dec. 24th, 1847. T. R. B.

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76. *Caustic Potash, an antidote to the Poison of Cantharides*—Dr. Mulock, of Dublin, states that in three cases of strangury, caused by blistering with cantharides, he found the solution of caustic potash a perfect remedy. Two of the cases were head affections, where opium was inadmissible. Thirty drops, given in half a wine-glass of water every hour, gave relief before the third dose was exhibited. "What led me to the use of this preparation was its known effects in relieving the stings of wasps or bees, when applied to the skin. I considered that it might also relieve the acrid principle of the cantharides. Indeed from its effects, it would probably be a remedy for an overdose of that medicine, if given in proper time. In looking over the various works on irritative poisons, I find no antidote to the poison of cantharides, and mention this now, that further trial may be made of its effects in giving relief."—*Dublin Quart. Journ. of Med. Sciences*, August, 1848. T. R. B.

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77. *Post-Mortem Digestion of the Stomach.*—It is affirmed that one and an essential object of the vital principle, so called, is to give to the animal body a certain resistance against the operation of destructive chemical action. But much of this does not appear to be well-founded. In the case of the stomach, for example, it is known that during life, it resists the solvent powers of the gastric juice; but, as we learned first from Hunter, after death, if it happens that the organ contains food, the left end is frequently found dissolved. The most obvious explanation of this phenomenon would be, that some vital power defends the stomach during life, against the chemical solvent. But when carefully investigated, it is found that the solution takes place so rapidly as to affect the stomach, whilst it is still so far alive, that its muscular coat would respond to the galvanic stimulus; and,

half hours after he was supposed to have taken the poison. The heart was felt beating several seconds after respiration had ceased.

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moreover, that even living animals, earthworms, and leeches, introduced into the stomach, enclosed within perforated spheres, so that they were guarded from muscular compression, are dissolved by the gastric juice. These considerations point, then, to another explanation, and in place of elucidating that one among the many marvels of animal existence, the defence of an organized tissue against an agent expressly provided in the economy to act upon such substances, by any particular vital property, we should rather seek for the reason in chemical action resisting chemical action; or, in other words, it may be assumed that whatever degree of protection is required, is furnished by the defensive mucus of the organ. This protection is only necessary where there is food in the stomach, for at other times, the elements of the gastric juice are enclosed within the different orders of epithelium cells.—From *Mr. Grainger's Hunterian Oration, London Medical Gazette*, June 30, 1848.

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78. *Poisoning by the Seeds of the Jatropha Curcas (Physic Nut of the West Indies).* By H. LETHEBY, M. B., Lecturer on Chemistry at the London Hospital.—On the afternoon of June 28th, James Cole, aged 38, presented himself for medical relief at the London Hospital. He stated that his occupation was that of a labourer at the London Docks; that in the morning, while at work there, he met with a broken bag, containing some seeds,—of which he produced a sample (they were the seeds of the *jatropha*): that in consequence of being told by two sailors who were passing, that the seeds were wholesome, he removed the husks from five of them and ate the kernels; but that he had no sooner done so, than another sailor whom he met, assured him that he was eating a rank poison: this he soon found was the case; for, after the lapse of from ten minutes to a quarter of an hour, he began, he said, to experience a burning sensation in his mouth and throat, and the abdomen felt sore and distended. In the course of a few minutes after this, he was seized with violent sickness, and during the subsequent hour, vomited five times and was very actively purged. The burning sensation in the fauces, and the pain in the abdomen still continued: he also felt hot and feverish. Towards the termination of the first hour and a-half, a profuse perspiration broke out upon the whole surface of the body, and then he became so exceedingly weak as hardly to be able to walk about. During the next half hour, the debility had greatly increased; he felt extremely giddy, became delirious, and was ultimately quite insensible. He remained in this state nearly twenty minutes, but in another half hour, had so far recovered as to be able to walk to the London Hospital, where he presented himself after an interval of about four hours after having taken the poison. At this period he was very weak, and complained of a sensation of heat and dryness of the mouth and throat, of numbness in the tongue and of pain in the abdominal region. His countenance was pale and somewhat anxious; the pupils were natural; the hands rather cold, the pulse 140, and weak. By means of an opiate and a mild cordial, he was soon restored, and enabled to return to his home.

Dr. Letheby states, and it is this that gives interest to the above case, that the physic nut is frequently imported into England, and it is believed that it is used for the manufacture of what is now and then met with at drug sales, under the name of English croton oil.

He also points out the similarity of action from this, with that produced by the seeds of the castor oil plant, and of the croton tiglium.

"Mr. Bennet says that four of the jatropha seeds will act on a man as a powerful cathartic, but it is evident from the case here mentioned, that danger might be incurred by the administration of such a dose; in fact, Dr. Christison states that he has known violent vomiting and purging occasioned by a few grains of the cake left after the expression of the fixed oil from the bruised seeds. It appears from this that the poisonous principle of the jatropha, like that of the croton and ricinus, exists in the solid and non-oleaginous parts of the seed. This view is confirmed by another statement made by Dr. Christison, that from twelve to fifteen drops of the oil expressed from the physic nut, produced exactly the same effects as an ounce of castor oil. Now I have found that three kernels will only yield one drop of oil; it would therefore take from thirty-six to forty-five seeds to produce the dose mentioned by Dr. Christison; and it is scarcely necessary to say that

even thirty-six of the seeds would be quite sufficient to occasion the death of the individual.—*London Medical Gazette*, July 21, 1848. T. R. B.

79. *Death from the Bite of a Man.*—A few weeks ago, when the 4th Royal Irish Dragoon Guards were stationed at Nottingham barracks, two of the privates quarrelled, and one bit the other on the finger. The wound festered, and at length the man's whole body became affected; the bones, denuded of flesh, protruding through the skin. The sufferer lingered until Monday, when he was relieved by death. A despatch has been sent to Manchester (where the regiment is now stationed) for witnesses, and with orders for the man, who so savagely attacked the deceased, to be taken in custody, preparatory to an inquest being held upon the body. The case has excited great interest in a "medical point of view."—*Atlas*, August 19, 1848. T. R. B.

ANÆSTHETIC AGENTS.

80. *Anæsthetic Agents.*—The journals continue to teem with accounts of operations performed on patients rendered insensible to pain by the inhalation of chloroform. Nothing new of importance has, however, been elicited in relation to the physiological action of this agent, or to its therapeutic applications, though considerable additional evidence has been furnished in support of the views previously developed. The principal novelty which has been brought forward is a new mode of applying anæsthetic agents, by which *local anæsthesia* is produced, the sensorium not being affected, consciousness being retained, and parts not submitted to the action of the agent being unaffected. Many facts have also come to light illustrative of the toxical action of chloroform, and showing most conclusively that the cautions we have so earnestly urged upon our readers in regard to the use of this powerful agent, are well worthy of attention; and that our fears of ill effects from the extreme recklessness which has prevailed in its use, were not purely imaginary. That a greater number of examples of the injurious effects of chloroform have not been recorded, we can only explain by the circumstance that while so many were loudly boasting of their success in its use, others were ashamed to admit that they were less successful, and were disposed to ascribe the unpleasant effects they witnessed to their inexperience in relation to the proper mode of administering it. In this way, also, can we alone explain the discrepancies which have sometimes existed between the reports we have received from those who have witnessed operations and the published accounts of them.

In the following articles we have endeavored to embrace all the facts of importance in relation to anæsthetic agents, which have been brought to light since the publication of our last number.

81. *On the Practical Value of Anæsthetic Agents in Surgical Operations.*—Mr. Humphrey, in an interesting paper in the *Prov. Med. and Surg. Journ.* (Aug. 9th, 1848), observes, "that the practical value of anæsthetic agents in surgical operations, can be decided by observation alone, for we must be unwilling to admit speculation upon a discovery which had taken us so much by surprise, and exceeded our highest expectation of it. Surely, by no previous discovery, except perhaps, that inestimable one of vaccination, has so much pain been saved at so little cost. That we should be able to remove limbs and perform other grave operations without the infliction of pain, was a triumph too great for our belief. Still less could we imagine that an agent capable of producing such an effect would be unattended by deleterious or even fatal results in the indiscriminate use which was too likely to be made of it. Though I commenced the use of ether very early after its discovery was announced in this country, I must say I did so with much apprehension, and with great care. It was a source of no little anxiety to me, and I used to watch the weekly periodicals in the fear that they would soon teem with the records of fatal cases. Even at the present time, after the administration of ether and chloroform in a great number of cases during the last year

and a half, I cannot forget that I am wielding a powerful and very dangerous weapon, which requires the greatest care and attention in its use.

"I have witnessed the administration of ether and chloroform in some hundred cases, nearly all the operations of importance in our hospital having been performed upon patients subject to the influence of one or other of these agents during the last year and a half. The ether was used from Christmas, 1846, to October, 1847. Two patients, young women, one of whom suffered amputation of the toe, the other of the thigh, were excitable, hysterical, or delirious, and at times faint, during the remainder of the day. Two other women to whom ether was exhibited for slight operations, were said not to have recovered their memory and the full use of their mental faculties for several days after. One lad died with peculiar symptoms of oppression of the sensorium, preceded by delirium, three days after amputation of the arm on account of accident. Ether was administered; its effect was quick and complete and soon passed off, so that he slept well and the delirium was not observed till the following morning; we cannot with certainty attribute the fatal result in this case to the ether. With these exceptions I saw no ill consequences from the inhalation of ether beyond, occasionally, headache, sickness, and giddiness, lasting for a few hours.

"Since its introduction, chloroform has entirely superseded ether in our practice; we have been in the daily habit of using it during the last nine months, and I am not aware that its administration has been productive of any ill consequence in a single case. It is usually given on a small sponge fixed in a mouth-piece to prevent excoriation of the lips. The mouth-piece is not closely applied at first, so that some air is admitted in the early inspiration. A drachm of the fluid is poured upon the sponge, and additional doses of half a drachm are given as occasion requires. The best time for commencing the operation is when the muscular system is relaxed and the head falls back. The administrator should be careful to remove the inhaler directly any snoring is observed, and indeed he will do well to stop short of that point. The only formidable symptoms which I have witnessed from the administration of chloroform have been those of fainting. On one or two occasions these were rather alarming. Splashing the face freely with cold water was found to be the most effectual means of inducing reaction. I cannot tell what conditions of the system decidedly contraindicate the use of chloroform, but I should be unwilling to administer it to persons in whom fainting was likely to be attended with serious consequences,—such as old people, or persons with feeble or diseased heart, intermitting pulse, or disease of brain.

"I have observed chloroform and ether to act exceedingly well on delicate and enfeebled persons, those very cases in which we have most to apprehend from the pain and shock of an operation; and the knowledge of this fact has induced me to recommend amputation in some cases where I should have been unwilling to submit the patient to the unmitigated pain of such a procedure.

"Of the influence of chloroform in preventing the sufferings of the patient, during an operation, there can be no doubt, and if it do no more, it is a wondrous boon; but the more important question of its influence upon the ultimate recovery of the patient can be decided only by the carefully collected results of extensive experience. I can venture only to give my own impressions, which have gradually grown, from the observation of many patients, and which are decidedly in favour of the agent. Though quite prepared for occasional fatal accidents, during its administration, I believe that the average success of operations will be increased by its cautious and discriminate use. The shock to the system (a very important item in an operation), is so closely connected with the pain felt during the time, and is so greatly lessened by the absence of pain under the influence of chloroform, that in several instances, and those cases in which its effects were most to be dreaded, I have been unable to trace any of its usual consequences. There has been certainly, on the whole, less prostration followed by feverish reaction, after operations under ether and chloroform, than we used to witness before the introduction of these agents.

"There seems, moreover, to be a connection between the pain felt during an operation, and that which is experienced in the wound afterwards; for you cannot have failed to observe the comparative freedom from pain which patients enjoy for some time after operations which have been performed under the influence of

ether and chloroform; they often converse on other subjects, as though there were nothing the matter with them, and when placed in bed they are at ease, and, perhaps, fall asleep.

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83. *Tetanus successfully treated by Chloroform*.—Mr. R. L. Baker reports (in the *Lancet*, June 3d) the case of a man who had his hand crushed in some machinery, and a portion of the first phalanx of the ring finger of the right hand torn off, leaving a portion of the integument on the upper side sufficient to cover the end of the bone, and to form a good stump. It was dressed in the usual way, and the patient continued his employment. Two days afterwards the fingers became swollen and painful, and on the fifth day after the accident, Mr. B. received an urgent message to visit the patient with Dr. Fletcher. They found him perfectly stiff with tetanic spasm. He appeared conscious, but had lost all power of articulation and deglutition. The whole surface of his body was bathed in perspiration; every muscle seemed implicated in the spastic action; indeed, he had all the ordinary symptoms of traumatic tetanus, and no hope was entertained of his recovering from this condition. They ordered a turpentine enema to be administered immediately, and the tincture of cannabis sativa to be given in doses of twenty minims every three hours; and thinking it a favourable case for the application of the chloroform, it was arranged that it should be administered on the next visit. At 2 P. M. Mr. Baker again saw him, and found him in the same state in which they left him in the morning. The attendants could not get him to swallow the medicine, and made ineffectual attempts to give a glyster. Under these circumstances he administered the chloroform on a handkerchief, and in about three minutes the muscles began to relax. The thumb, which had been firmly grasped by the fingers into the palm, became quite easily moved; for a short time he muttered incoherently, then answered two or three questions rationally, and finally sank into a sound sleep, with the muscular system relaxed and free from convulsions. Mr. Baker kept up the effect of the chloroform for three quarters of an hour, and left him asleep, having prescribed a blister to be applied to the back of the neck, and two grains of calomel every two hours, to get free action of the bowels. At 9 P. M. he again visited him, and learned that an hour after he had left him, the patient awoke, as if from sleep, with the free use of his limbs restored, and asking to be assisted to the night-chair, where he had a copious stool, and entered into rational conversation with those around him. From this time his general health gradually improved; but the finger continued much swollen. Finding, on the 3d ultimo, that the pain had increased, with slight muscular convulsive twitches, and thinking that the finger might be the cause of irritation, and, consequently, being fearful of a return of the tetanic symptoms, Mr. Baker determined to remove the finger at once. Not having the chloroform with him, he amputated it without its use; and since its removal there has been no return of the convulsive symptoms, and the patient is doing well.

The tetanus came on five days after the accident, and the finger was amputated on the eleventh day after the original injury, and six days after the successful administration of chloroform.—*Prov. Med. & Surg. Journ.*, June 14, 1848.

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84. *Local Effects of Chloroform and other Anæsthetic Agents.*—Mr. NUNNELEY, at the annual meeting of the Yorkshire branch of the Prov. Med. and Surg. Association, stated that for many months he had been engaged in making experimental researches on these agents, with a view to ascertain, as far as possible, the modus operandi, the doses which may be borne with impunity, and the different modes of application; as well as, in case of an overdose, the best means to be adopted to counteract it. His experiments have not merely extended to the common anæsthetic agents employed, such as ether and chloroform, but he has been endeavouring to ascertain whether or not there may be some others, which may either be more safely administered, or may possess still greater advantages than the usual agents employed; which appeared to him to be by no means impossible, inasmuch as, so far as he could ascertain, the selection of those now employed, rather than others, seemed to have depended more upon accident than deduction from experimental research, proving them to be in all respects the best. He stated that he believed it not improbable that it would ultimately be found, that all those preparations which have a *radical basis*, (in the language of modern chemistry,) such as acetic ether, bisulphuret of carbon, aldehyde, and many others of an analogous character, upon some of which he had made extensive experiments, would possess similar properties on the animal economy.

Mr. Nunneley was also prepared to state, *that chloroform appeared to be most deleterious to life*, to require the greatest care in its administration, and that the boundary up to a fatal dose is by no means well marked—that of two animals, in apparently the same condition, the same dose being given in precisely the same way to both, the one will speedily die, while the other will bear it with impunity, —that from the effects observed, he has reason to think the ultimate effects are in some respects not dissimilar to those produced by prussic acid,—that to some animals, as for instance the newt, the frog, the toad, some fish, slugs, snails, and some insects, the effects are *more* rapidly fatal than prussic acid of Scheele's strength; and that even in higher animals, when under the influence of an incomplete dose, or recovering from the effects of a large dose of either chloroform or prussic acid, the phenomena are in many respects very similar,—and further, that the numerous *post-mortem* examinations which he has made, fully corroborated this opinion. He stated that acetic ether, with which he had made numerous experiments, possesses very considerable anæsthetic powers,—that bisulphuret of carbon does also possess to some extent similar power, and so far as his experiments go, it is very important to add, that this power is of a safe character, the animal speedily recovering. But of all these remedies he believes that sulphuric ether will be found to be the safest and least noxious to life.

On these points Mr. Nunneley intends hereafter to lay his experiments, already very numerous and varied, before the profession. His chief object, on the present occasion, was to call the attention of the profession to experiments proving, as he thinks, the value and safety of a *new mode* of administering these agents, and to show that the action of all, or most of these agents, might be produced *locally by local applications*, the sensorium being unaffected, consciousness being retained, and the limbs not subjected to their influence being unaffected. He stated that either by *immersion* in a small quantity, or by the *vapour applied* merely for a limited period, a limb may be rendered *perfectly motionless and senseless*, and what may be an additional advantage, *fixed in any desired position*. He had immersed his finger in these fluids for about half an hour or an hour, and at the end of this period the finger was nearly powerless and insensible, and that it was forty-eight hours before the effects entirely disappeared, a sensation of heat and discomfort extending along the tract of the nerves to the axilla. Before operating on a difficult case for artificial pupil, he had applied for twenty minutes a small quantity of the vapour of chloroform to the eye by means of a small jar which accurately fitted the orbit, with the effect of rendering the parts nearly insensible. The first effect of these agents, when locally applied, is to produce redness, heat and smarting, which subside, followed by swelling and redness of the integuments, which remain for some time. Mr. Nunneley stated that he could completely paralyze any limb of frogs or toads by immersion or exposure to the vapour, in about five minutes or less; and he mentioned, as a curious fact, that if the exposure to the influence were continued longer than was sufficient to produce a local effect, this influence ex-

tended to the corresponding limb of the other side: thus, for instance, if one hind leg became *too much* influenced, the other hind leg partook of the same effect—if the fore leg were too much affected, then the other fore leg became so likewise, and subsequently, the whole body—a result which Mr. Nunneley mentioned as strongly corroborative of his experiments with prussic acid, as detailed in the last volume of the "Provincial Transactions," and strongly supporting the opinions of Dr. Marshall Hall on "reflex action." By this new mode of application to the hind legs of rabbits, he had also been enabled to amputate the toes without the least indication of feeling.

These views were illustrated by a series of interesting experiments on frogs and toads, in which, after immersion for a few minutes, the limbs became insensible, and were amputated in repeated portions without any symptoms of pain whatever.

[We are indebted to Mr. Nunneley for the foregoing account, (taken from the forthcoming volume of Mr. Braithwaite's "Retrospect,") and also for a letter on the mode of performing the experiments on animals, from which the following is an extract:]—

"For showing the local effect, nothing is better adapted than the living leg or legs of a frog. All that is necessary is to put a few drops of the agent we wish to ascertain the effect of, into an ounce, ounce and a half, or two ounce vial, according to the size of the frog, having such a mouth as to receive the limb, and just fit round the upper part of the thigh, without, however, compressing it, and in order to avoid the vapour escaping, then passing round a few folds of a strip of linen or other bandage. If it is wished to see the effects of the vapour, the bottle should be sufficiently long not to allow the toes to touch the fluid, and the bottle should be kept quite still in an upright position; but if it be wished to apply the fluid itself, then the toes should touch the bottom, or the bottle be from time to time placed on the side in order to allow the fluid to pass over the limb, by which proceeding but little of the substance is required. At first, the creature struggles, the fluid evidently acting as a stimulant, and at that time a little effort is required to keep it in its position; presently it will remain *in situ*, for the immersed member becomes still and motionless. In from two to five minutes the full effect is produced, and the limb is perfectly insensible. If one leg be kept in too long, the other hind leg is affected, or the whole body is brought under the influence of it; when the experiment is less satisfactory, and the animal is liable to die. After the application the limb remains for some time swollen, and the colour of the skin is altered.

"In the case of other animals, the time necessary for immersion, before complete insensibility takes place, will vary with circumstances, as to the temperature, but more especially the aptitude of the integument for absorption, and the nature of its covering. Thus, if the skin be hard, the epidermis thick, with the hair stiff and long, then a considerable period will be required. In the case of a rabbit, the other night, after an hour's immersion, I cut off the whole of the toes in succession, and then amputated the entire foot, cutting through the metatarsal, and then the tarsal bone, the creature lying upon my knees in the most quiescent state possible, there not being the least disturbance of the countenance during these operations. But the moment either of the other limbs was touched, and also what is of great interest, the *same limb above where the chloroform had reached*, it at once started up, with every indication of pain, showing how precisely the effect may be limited. The same operations I have also performed upon a kitten, and upon two dogs (old); these were, as might be expected, after a similar length of immersion, though considerable diminution of sensibility was produced, not rendered entirely devoid of feeling.

"I may mention that to-day (June 22d), I have operated upon a staphylomatous eye, in a man from a distance, after the local action of chloroform, when I removed the entire cornea with a small portion of sclerotic coat and iris, with hardly any infliction of pain; and what is singular, so completely were the muscles of the globe affected, that for some time afterwards the remains of the eye did not collapse, although their attachments were not cut through. The fluid had been applied longer than necessary, and longer than I had intended, for, after having given directions that it should be applied until my arrival, I was detained away longer than I had expected.

"I have been making experiments upon two new agents, both of which I find to possess considerable anæsthetic property, and one of which I believe will prove to be superior in every respect to chloroform."—*Prov. Med. and Surg. Journ.*, June, 1848.

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85. *Local Anæsthesia: Notes on its Artificial Production by Chloroform, &c., in the Lower Animals and Man.* By J. Y. Simpson, M. D., &c., Prof. of Mid., &c. (*Prov. Med. and Surg. Journ.*, July 12th, 1848.)—In this paper, the learned Professor, after some remarks tending to show that the artificial production of a state of general anæsthesia before the performance of surgical operations, is not altogether an idea of modern times, and that the ancients also seem to have entertained the idea of the possibility of producing a state of *local* and limited anæsthesia in any part operated upon, gives the results of a number of experiments performed by him upon the lower animals, and two upon man, with a view to the possibility of producing a state of local anæsthesia. His experiments on the lower animals were most striking and satisfactory, but our limits will not permit us to detail them. The following are the general results of his experiments on the human subject:—

"1. When the hand is exposed to an anæsthetic vapour, it betimes presents the sensations of a limb benumbed, by compression of its larger nervous trunks—the sensations, in fact, of partial or commencing paralysis. Usually after a short time, a glowing or burning feeling is perceived in the parts most exposed, and gradually there supervenes a sensation of thrilling and pricking (like a limb asleep), which deepens more and more. The skin turns red, and the hand at last becomes stiff and clumsy, and feels as if enlarged, and painful impressions, as pricking, pinching, &c., are felt less and less than in the other unexposed hand. After the hand experimented upon is removed from the vapour, it is generally half an hour or more before its usual normal feelings are quite restored. The nerves of motion are usually apparently as much affected as the nerves of sensation.

"2. When the jar containing the chloroform or other anæsthetic fluid experimented upon, was immersed in warm water, so as to raise the vapour of the fluid more fully and quickly, the resulting anæsthetic effect was always greatly increased, both in rapidity and intensity.

"3. The vapour of chloroform proved stronger than any other that was tried. When one hand, for instance, was immersed in a jar containing the vapour of sulphuric ether, and the other in a jar containing the vapour of chloroform, (both jars containing similar quantities, and being subjected to the same degree of heat,) the hand in the chloroform jar was both more speedily and more deeply affected than the other. In addition to the vapour of chloroform and ether, I have tried comparative experiments with the vapours of aldehyde, bisulphuret of carbon, iodide of methyle,* &c. The aldehyde had little or no effect of any kind. The iodide of methyle produced a very severe burning sensation, and left the hand intensely red and erythematous for a day or two afterwards, but with no marked anæsthetic influence. Among several of us that tried the vapour of bisulphuret of carbon, only one bore it for any length of time, (about an hour,) and in him it did not render the hand anæsthetic in any very appreciable degree; in myself and others the sensation of heat and burning became so utterly intolerable, as to force us to withdraw the hand in two or three minutes. Immersion of the hand for half an hour in Dr. Fleming's very powerful tincture of aconite,† or in a strong

* "Two or three months ago I began a series of experiments with the intention of testing the anæsthetic effects (if any) of the various respirable compounds of methyle, acetyle, &c. I was prevented from proceeding far in the inquiry, in consequence of the effects following the inhalation of the compound mentioned in the text—viz., iodide of methyle. I found it very powerfully anæsthetic, but dangerously so. After inhaling a small quantity of it for two or three minutes, I remained for some seconds without feeling much effect; but objects immediately began to multiply before my eyes, and I fell down in a state of insensibility, which continued for upwards of an hour. I did not recover from the effects of it for some days."

† "Some other forms of preparations of this and the other substances may possibly produce different results, as we know that aconite, when chewed, causes a numb-

tincture of opium and of Indian hemp, and in a strong solution of belladonna, produced no appreciable anæsthetic effect.

"4. The hand, when plunged in liquid chloroform, is usually somewhat more deeply apathized than the other hand simultaneously held in the vapour of chloroform. This was the more general result with those who tried the experiment; but in some the chloroform vapour was as anæsthetic, or more so, than the liquid. Few persons can keep the hand for any adequate length of time in liquid chloroform; the sensation of burning becomes so intense and insufferable, as to force them to withdraw it in a very few minutes. On one occasion I held my hand for upwards of an hour in liquid chloroform without the part being more deeply apathized than it would have been by exposure to the vapour. One of my pupils, Mr. Adams, perseveringly retained his hand in the liquid chloroform for upwards of two hours: no great or very marked degree of local anæsthesia resulted. In these cases, in which the hand was long steeped in liquid chloroform, the sensations of burning returned severely, from time to time, as if in waves, during the experiment; and on removing it from the jar, the feelings of heat were temporarily aggravated; the normal sensibility of the parts speedily returned, and was completely restored within an hour or two in all, but the skin sometimes remained red and injected for a longer period, occasionally for several hours.

"5. The anæsthetic effect of chloroform, &c., is increased, both in rapidity and in degree, by immersing the hand, with the cuticle softened and moist. When one hand, for instance, is immersed without any preparation, and the other is prepared by being bathed and fomented for ten or twenty minutes previously, the latter almost immediately begins to tingle under exposure to the vapour, the dry hand not for some minutes; the degree of anæsthesia is also ultimately deeper in the moistened hand.

"6. The degree of delicacy of skin in the person or part exposed to the anæsthetic vapour influences the result. In females I have seen the degree of the local anæsthesia of the hand that was produced, much greater and deeper than I could ever render it in the male subject. In applying the vapour of chloroform in small cupping-glasses, &c., to different parts of the body, as the insides of the arms, &c., the resulting degree of local anæsthesia seemed, in a great measure, regulated by the tenuity of the skin of the part experimented upon. The skin of the axilla seems too tender to allow of the vapour being applied for a length of time sufficient to produce anæsthesia. One of my students, who kept both his lower extremities enveloped in strong chloroform vapour for three continuous hours, felt no appreciable local anæsthetic effect from it.

"When strong chloroform vapour is locally applied to mucous surfaces, the attendant sensations of heat and smarting are too severe to allow of its sufficient continuance; at least, this is the result that I have obtained in applying it with small glasses to the inside of the lips, the tongue, and eye. Mr. Nunneley states, as we have already mentioned, that before operating on a difficult case of artificial pupil, he had applied for twenty minutes, a small quantity of the vapour of chloroform to the eye, by means of a small jar which accurately filled the orbit, with the effect of rendering the parts nearly insensible. Dr. Duncan and myself have repeatedly tried this experiment upon ourselves; but in none of the trials which we made, with the eye either shut or open, could we endure the burning action of the vapour upon the part above two or three minutes, and with no other result except always rendering the eye experimented upon red and injected, and suffused with tears.*

ness and tingling in the lips and tongue, lasting for some hours.—See 'Christison on Poisons,' p. 2."

* "I have tried the application of various anæsthetic gases and vapours to the vagina, in cases of vaginal irritation and neuralgia, but hitherto without much success. The stronger forms cannot be borne. I was induced to try them in consequence of the following curious statement regarding carbonic acid, published by Dr. Pereira ('Materia Medica,' Vol. I. p. 155).—'A lady who had suffered a considerable time from some uterine affection, and had derived no relief from the treatment adopted, was advised to consult a physician in Italy (Dr. Rossi). After he had examined the condition of the uterus, he assured her there was no organic disease, but merely a

"The degree of anæsthesia produced in the hand by exposure of it to the strong vapour of chloroform, does not, in general, perceptibly increase after fifteen or twenty minutes. The same sensations continue if the hand is still retained in the jar; but an increased length of exposure does not, after a time, produce a corresponding increased degree of local insensibility.

"But, finally and specially, I would observe that the degree of local anæsthesia produced in the human hand or skin, by exposing it to the local action of the vapour of chloroform, has never, in my experiments, been by any means so deep and complete in its character as to give the chance of annulling the pain of any severe operation, such as the deep incision, or amputation of a finger. As compared with the other non-exposed hand, the chloroformed hand is generally rendered, to a marked amount, *less* sensitive; but the insensibility is never, I fear, so entire and perfect as will save the patient from the pain of the surgeon's knife. In short, I entirely doubt, whether, in the human subject, we shall ever be able to reduce the knowledge of this possible production of partial local anæsthesia to any practical purpose. It is principally interesting in a toxicological and physiological point of view, and in relation to the doctrine of the mode of action of anæsthetic agents.* Its bearings are more upon the theory than upon the practice of anæsthesia.

"These remarks relate to local anæsthesia as capable of being produced by the anæsthetic agents with which we are at present acquainted. Others may no doubt yet be detected, much more powerful than any we at present know,† and their local application may enable us to effect the local anæsthesia desired. At the same time, this consummation even, seems doubtful; for, perhaps, any agent possessing a deeper and more rapid anæsthetic local power, would, by absorption, affect the system generally, and it may be, dangerously, before complete local insensibility of a part could be effected. Some time ago, in attempting to produce local anæsthesia in my hand, by exposing it to the vapour of hydrocyanic acid, ere the hand was much, or very perceptibly benumbed, I began to feel the constitutional effects of the poison; my respiration became irregular, and I felt giddy and faint, when my assistant removed my hand from the jar. All due care was taken to

considerable degree of irritation, for which he proposed to apply carbonic acid as a sedative. This was done by means of a pipe and tube, communicating with a gasometer situated in another room. The patient obtained immediate relief, and although she had been obliged to be carried to the doctor's house on account of the pain experienced in walking, she left it in perfect ease. On her return to England, she had a relapse of the complaint, and applied to Dr. Clutterbuck to know whether she could have the same remedy applied in London, in order to save her the necessity of returning to Italy."

* "The distinction which exists between the structure and functions even of the skin in the lower animals, as compared with the skin of the human subject, perhaps sufficiently explains the differences in the degree of local anæsthesia, capable of being produced by the local application of anæsthetic vapours and fluids in the one and in the other. 'In animals,' (says Dr. Jackson—see American Cyclopædia of Pract. Med. and Surgery, &c., vol. i. p. 115,) "whose skin is moist, and which possesses a very delicate cuticle, cutaneous absorption is a constant and important function. Such are frogs, salamanders, and similar animals. The experiments of Edwards have established the skin in them to be entirely absorbing, and instrumental in their support. It is the opinion of Fohmann, that while the fœtus is in utero, cutaneous absorption from the liquor amnios by which it is surrounded, is one of the means of its nutrition."

† "Perhaps some special modification in the application of galvanism or magnetism to the part to be locally anæsthetized, may yet be found capable of effecting this object. I have tried several experiments, but hitherto without much success. The possibility of deep *local* anæsthesia existing in diseased states, (as in colica pictonum, hysteria, hypochondriasis, &c.,) without the general sensibility or consciousness being affected, is well shown in a late interesting essay of M. Beau, in the 'Archives Générales de Médecine,' for January, 1848. He relates one case of an insane patient who broke his fibula, and continued to walk about without pain till the limb became inflamed and gangrenous. It was then amputated, and still without the patient suffering in any degree during the operation."

prevent me breathing any of the vapour, and I sat during the experiment in a current of air. I felt the benumbing influence of the acid extending from the hand upwards along the arm a minute or two before the experiment was stopped."

86. *Cold as a Means of producing Local Anæsthesia in Surgical Operations, and certain Painful Diseases.* By JAMES ARNOTT, M. D., Brighton. (*Lancet*, Sept. 9th, 1848.)—Mr. Arnott points out some of the objections to the use of general anæsthetic agents; among others he says with the loss of consciousness, the patient "loses the power of guiding and aiding the surgeon under very important circumstances. He cannot, in this condition, prevent the surgeon's enclosing a nerve in the ligature which he places round an artery, or his seizing a fold of the bladder with the forceps, in searching for a stone. He cannot assume certain suitable postures at the bidding of the surgeon; and when convulsive movements are caused by the anæsthetic, (as is frequently the case,) the surgeon is obliged to proceed under great difficulties, or suspend the operation until the anæsthesia has passed away."

"Few," he continues, "I think, would now, as in the first burst of their admiration, be willing to rank etherization as the leading medical discovery of the age, and to pronounce it the equal of vaccination in importance."

"It must," he thinks, "be admitted that the problem, how to obviate pain without incurring danger, has not been solved by the discovery of etherization. It is undeniably attended with very considerable danger, both from its immediate or eventual effects on the system, and from the patient's loss of consciousness while under its influence."

The method which Mr. A. proposes of producing anæsthesia, "may not," he says, "perhaps be found so effectual as ether or chloroform in removing the whole of the sensibility; but if it should remove so much of this as to render surgical operations tolerable, and consequently less dreadful, and prevent that portion of hazard attending them which proceeds from excessive pain, without adding any new hazard of its own, it would be entitled to a preference."

The local anæsthetic agent which Mr. A. recommends is *cold*. "We have all," he says, "had experience of this anæsthetic, to a certain extent, in frosty weather; and its artificial production in no wise differs from this natural agency, except in degree and the power we have of controlling it. Every minor degree of cold has probably a proportionate effect in diminishing sensibility, but a certain low degree is requisite to render the anæsthesia complete. Fortunately, this is not below that point which may be applied with perfect safety—for, as every one knows, very low degrees of cold act as injuriously on the animal structure as very high degrees of heat.

"The degree and continuance of cold necessary to produce anæsthesia, will be in an inverse proportion to the heat of the part to which it is applied, or rather to its power of generating or transmitting heat. In the natural state, a temperature of the freezing point of the thermometer would in most cases be insufficient, unless of long continuance; but it would be otherwise if the circulation of blood in the part were very languid or obstructed. A temperature ranging between 5° and 25° Fahr. (which can be easily procured by the common frigorific mixture of pounded ice and salt), will produce complete anæsthesia of the skin in two or three minutes. The sudden application of this degree of cold causes a slight tingling or smarting, but not any very unpleasant sensation of cold. It will be proper, however, not to depend upon the period elapsed, but to examine the skin from time to time, in order that the refrigeration may not be carried to an unnecessary extent. A degree or continuance of cold that, under natural circumstances, and without pressure, would solidify the adipose secretion under the skin, will generally be found greater than is required, and ought not, therefore, to be produced. Whether the several tissues require different degrees of cold to produce anæsthesia of them respectively—whether a short continuance of severe cold is more or less anæsthetic and useful than a minor and more prolonged degree—and whether the application of more than one degree might not be advisable in producing deep or extensive anæsthesia, are points remaining to be determined; but any uncertainty about these need not impede the immediate substitution, in many cases, of this anæsthetic expedient for the present dangerous process.

"The anæsthesia of the skin, produced in the manner described, lasts for several minutes, and the only other consequence of the cold, is a slight and quickly evanescent blush.

"In my former paper I described the mode of applying the frigorific mixture by means of a thin, or prepared bladder. It may be applied directly to the skin by means of a common wine or beer glass, containing such a quantity of ice and salt in their dissolving state, as will insure a continuance of a sufficiently low temperature; but, in order that the skin may be examined from time to time, it is more convenient that the vessel containing the mixture should, like the shade or glass chimney of a lamp, be open at both ends; or that it should be made removable by having a bottom, consisting of thin membrane. Cold may be applied to the whole circumference of a limb, by dipping it into the mixture, after covering the part which is not to be refrigerated; or the limb may have a sort of funnel slipped upon it, of a size or depth proportional to the surface intended to be rendered insensible. Other contrivances, suitable for particular purposes, will be obvious to every surgeon; nor will a variety of means of combining pressure with the cold be of more difficult attainment.

"I am sorry that I cannot yet speak with certainty of the depth to which anæsthesia from cold can, when conjoined with pressure, be carried. The dissecting off a small portion of the skin without pain, (an operation which I have repeatedly performed, and which is by far the best mode of forming an issue.) shows that the anæsthesia of the skin, the most sensible of the animal tissues, is complete; and if the skin were deprived of its sensibility, there are few operations that would not lose half their terrors. It must not be forgotten, likewise, that in some operations there would, as in the unconsciousness attending general anæsthesia already adverted to, be a disadvantage in producing complete anæsthesia of all the tissues concerned. Is the safety of the patient to be hazarded in these cases, in order that he may be relieved from a slight and very tolerable degree of pain?

"Before concluding these remarks, I may mention that the surgeon would do well, before employing it in operations, to make himself familiar with the effect of cold, by applying it, in the manner described, to his own arm. He will thus best learn how to regulate the degree, and be immediately convinced of the essential difference that exists between such moderate and brief applications of cold, and those effects of it which happen from exposure of the body in high latitudes, or severe winters.

"With the same view, his first employment of it may be in the minor operations. A French writer mentions, that he does not hesitate to employ chloroform to obviate the pain that would be caused by cauterization, or the application of the moxa; and there are many other similar operations in which we should be glad to save our patients from suffering, if this could be done without hazard.

"In the same work which contained the original suggestion of cold as an anæsthetic in surgical operations, it was proposed to employ it as a remedy in neuralgia. The unequivocal advantage I have derived from its use in one case, corroborates the opinion I had formed, and induces me to think that its influence would be deeper, and its effects more permanent, than the action of aconite and the other narcotics. If a finger be kept immersed for a little while in a frigorific mixture, a deep-seated numbness will be produced, and will continue for many days afterwards.

"A degree of cold below the freezing point of water is, I believe, a new agent in therapeutics, which could, probably, be usefully employed for various other important purposes. A solution of salt, of a very low temperature, by acting on the exposed nerve, might at once, and permanently, remove toothache; and a frigorific mixture, contained in a bladder, or other waterproof case, would probably be a powerful means of checking hemorrhage in accessible internal parts, or during surgical operations. The same principle might also be usefully applied in the treatment of cutaneous, and other superficial diseases attended with distressing sensations. A minor degree of cold, when long and uniformly continued by means of the current apparatus, I have found an efficient remedy in many such cases; but lower degrees of cold, carefully applied, might, under certain circumstances, prove successful, when a higher temperature would fail."

87. *Local Application of Chloroform for the relief of Pain.*—An anonymous correspondent of the *London Medical Gazette* (Aug. 11, 1848), relates the following case. "An aged person, who had been suffering for ten or twelve days under very acute pain from internal suppuration and disorganization of the eye, with pus in the anterior chamber, (her age and circumstances prohibiting the employment of very active measures for subduing inflammatory action,) was most effectually relieved of pain by the vapour of chloroform applied directly to the eye by means of the common chimney glass of an Argand lamp. A small piece of rag being moistened with the fluid, it was placed in a saucer over a cup of warm water, and the vapour thus directed slowly to the eye; relief was almost immediately experienced, and after a very few applications she had no return of pain, comfortable sleep being also procured by the remedy."

88. *Disagreeable Effects from the Use of Anæsthetic Agents.*—Mr. Tomes, in his valuable course of lectures on Dental Physiology and Surgery (London, 1848), just published, relates a number of cases in which very unpleasant effects followed the use of anæsthetic agents.

He mentions the following case to enable the reader to judge "whether it is wise to use it [chloroform] on trivial occasions."

"Previous to the discovery of the anæsthetic effects of chloroform, Mr. J. Bell brought to the hospital a little chloric ether, or terchloride of carbon as it was then called, that its effects might be tested. A female patient from the venereal ward was brought by her nurse to have a tooth removed. She was speedily rendered apparently insensible by inhaling the chloric ether, and the tooth, a first permanent molar, was removed. She did not seem to feel the operation—there was no expression of pain. In a few minutes after the removal of the tooth, the patient regained her consciousness. She then said that the operation gave her great pain, and described it so accurately that no doubt remained that she felt the usual amount of pain; but the power to move, she said, was suspended; she could not move in the slightest degree any part of the body, so that the power to express pain was paralyzed. The ether was given in the morning; during the day she fainted several times, had headache, and felt altogether unwell, and was very angry at us for giving her the ether. She said that she had never fainted before, and that the ether had made her ill.

"As the disposition to faint was no doubt caused by the chloric ether, I did not again use this drug. Chloric ether consists of chloroform, with eighty per cent. of alcohol."

The following cases are also related by Mr. Tomes, illustrative of the ill effects sometimes following the administration of chloroform.

"The stomach," he says, "is sometimes deranged by chloroform. I have known of several cases in which distressing sickness was excited by the inhalation, and in one instance this lasted for twelve hours, and was compared by the patient to violent sea-sickness.

"During inhalation the patient sometimes struggles so violently, that it is only by force that the inhalation can be continued. Only a few weeks since I failed to produce suspension of the muscular power, though assisted by the medical attendant, so violently did the patient resist. Yet, on recovery, he was unconscious that he had resisted. In a second case, two gentlemen came with a patient, and with their assistance in holding him, I succeeded in removing two teeth. On recovery, he recollected neither the struggling, nor the extraction of the teeth.

"I have become acquainted with two cases in which the imagination was strangely affected for several weeks after the inhalation of chloroform. A lady between the age of thirty and forty suffered pain from several unsound teeth. Accompanied by a lady who had recently lost a little girl, and by her husband, she applied to a dentist. Chloroform was administered, and the tooth removed. She felt great difficulty and anxiety when inhaling, and wished to discontinue, but the dentist reassured her, and she went on. Her first sensation, on recovering, was the sound of her own voice, calling bitterly for the little girl who had recently died. This affected her very much, and she fell into a violent hysterical fit. On recovering she was conveyed home, but still bewildered, and at times hysterical. For three weeks she at frequent intervals heard her own voice calling for the little girl,

and this was immediately succeeded by a fit of violent hysterical crying. Her friends became very anxious for her safety, both mentally and bodily, for she suffered in health, as well as from these occasional hallucinations. Any attempt to read or to write brought on a violent headache, and in addition to these evils her nights were, comparatively, sleepless. She eventually recovered by the use of tonics, stimulants, and generous living. This is her own account. Her friends state that under the operation she evinced no signs of pain; but that previous to the time, she recollects hearing her own voice, she had been calling for the child, had asked its mother to restore it to her, and expressed the most bitter feelings of regret at its loss.

"The lady has had a tooth out since, but not with the chloroform. She seems very much averse to its use, and says nothing would induce her to take it again.

"In the second case, the hallucination took a different form. The patient, a young lady, under thirty, required three teeth to be removed. Her ordinary dentist declined giving her chloroform, on the ground that it was dangerous in all cases, and that it was not necessary or right to give it in tooth-drawing, or any other trivial operation. Hence she sought a stranger who was less punctilious. She was soon rendered insensible, and three teeth were extracted during the time. On recovery she remembered the extraction of the three teeth, and described the operation correctly, and declared it was attended with great suffering; but she believed the pain to be imposed for sins she had committed; that in truth she had been in purgatory, and had suffered there, and had again to go, she said. At first her friends thought she was joking, but after a little time they discovered that, when unoccupied with external objects, the mind constantly fell back upon this idea. In addition to this, she was very nervous and excited, and in the evening asked to have some one to sleep in her room. This proved fortunate, for during the night she was attacked with a fit of collapse. Brandy was freely administered, and a medical man sent for, who with stimulants restored her. For a fortnight after the inhalation she continued very miserable, and subject to the frequent recurrence of these hallucinations. Her condition caused great alarm to her friends, who could not tell how long it might continue, and did not feel justified in leaving her for a moment alone while in that uncertain state of mind. In each of these cases, the patients were reported to be of highly nervous temperament, and subject, under great excitement, to hysterical crying.

"Mr. O. Clayton related to me a case in which catalepsy, with a tendency to coma, was induced by the inhalation of ether, and lasted for four days. The pupils were dilated, and the patient was insensible to all that was passing around her; but could be partially roused for a moment by loudly shouting in her ear. She took no food, and drank only when forced to do so. If the arm was raised, it retained the position for awhile, and then slowly fell back on the bed. There seemed great reason to fear a fatal termination.

"The patient was a servant-maid, and predisposed to slight attacks of hysteria. She required a tooth to be removed, and asked to take ether. She recovered from the more urgent symptoms under the use of stimulants, but did not regain her usual state of health. Neither has she done so at the present time, though many months have elapsed since she inhaled the ether.

"I am indebted for the following interesting case to the kindness of my friend Mr. Chalk, who obtained the details from Mr. Bird, of Haverstock Hill, in whose practice the case occurred. It appears that two ladies repaired to a dentist's, one to have teeth removed when under the influence of chloroform, the other, as companion to the patient. In giving the history, Mr. Bird uses the words of his patient and her friend, and his own in relating the treatment and its result. 'The patient says—" Wishing to have two teeth extracted, I applied to a highly respectable dentist, for permission, in the first instance, to see one of his patients inhale the chloroform, which he kindly allowed, and afterwards appointed the next day for the time of my own operation. I accordingly went, accompanied by a female friend, and took my seat in the operating chair; the process of inhalation was commenced. I distinctly recollect hearing the gentleman say 'she is now under its full influence;' and he commenced the extraction, when I gave as loud a scream as I did on any previous occasion of tooth-drawing—although I felt a very pleasant soothing sensation." The inhalation was repeated; and here I must let her friend

speak:—"The second tooth, a stump, was then taken out without the least sign of pain; her countenance became ghastly, and my friend was in as complete a state of intoxication as could well be borne—almost pulseless—scarcely breathing, and I made up my mind she would die, and suggested the propriety of calling in medical assistance. The windows were all thrown open—brandy administered, and two bottles of eau-de-Cologne consumed in bathing the face." This state lasted three hours, when she was lifted into her carriage, and taken home, with directions to let her go to bed and remain quiet. This was about seven in the evening; she laid nearly all night in a restless half unconscious state, until five o'clock the next morning, when, reaction taking place, I was sent for, and found my patient in a high state of delirium—obliged to be held down in bed; leeches, blisters, &c., the usual mode of treatment, was adopted, and in four days she regained her senses. I am sorry to add that I sometimes find a vacancy in her manner, which leads me to forebode insanity sooner or later—a condition which I never observed previous to the inhalation, although I have been acquainted with my patient for ten years.'

"Mr. Isles, of St. Andrew's Court, Holborn, related to me the case of a female, in which the inhalation of an anæsthetic was followed by great nervous irritability, excitement, and sleeplessness, which was succeeded by an attack of phrenitis, from which the patient narrowly escaped with her life. Probably the dentist who gave her the vapour heard nothing of this."

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89. *Unpleasant Effects from Inhalation of Ether Vapour.*—Dr. H. J. Bigelow states, (*Trans. Am. Med. Assoc.*, p. 209,) "A gentleman of Providence informed me that he has suffered for many months from *vertigo*, *headache*, and *disability for labour*, which ensued upon a dose of ether vapour."

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90. *Death by Hemorrhage from the Lungs after the Administration of Chloroform.*—Birkenhead, Saturday, March 12th.—12 P. M. Dr. Walker, Dr. Robertson, and Mr. Macdougall were hastily summoned to visit Dr. Anderson, at No. 11, Church street. Found the patient very anxious, with a jerky, bounding pulse of 115. Dyspnœa and blue lips. He had expectorated about six ounces of fluid blood, of a florid appearance, and frothy from admixture of air.

There was dulness on percussion over both sides anteriorly. Harsh, irregular crepitation heard extensively with the stethoscope in front, and a bubbling rhonchus over the position of the larger tubes, especially on the left side behind. The patient felt a sense of constriction about the chest, with a dull pain in the back.

He stated that he was seized with a very acute pain in the back (to use his own words, "as if his back were about to separate into two"), immediately before the hæmoptysis came on. He mentioned that, on the day before (Friday, the 10th), he had allowed a dentist in Birkenhead, named Wainwright, to administer the chloroform to him prior to extracting a molar tooth. The rest of that day (Friday) he had felt much excited, with a peculiar "rushing in the carotids."

The next day, Saturday, he felt rather languid, especially towards evening, when he was scarcely able to walk from debility, and a burning pain in the back of the chest. He took a cup of cocoa, his usual beverage, and retired to bed a little after eleven o'clock, when the hemorrhage commenced.

His frame was spare. His habits were very studious, sedentary, and abstemious. For some time previous to taking the chloroform, he had felt a weakness about his chest, which caused him frequently to sink forward in the chair whilst reading, so much so that the book would fall out of his hand. Had no cough, however, although he felt some uneasiness from what he considered to be "slight cold." He said he considered the chloroform the exciting cause of the hemorrhage.

The medical men at this time considered the hemorrhage to depend on general exhalation from the general surface of the air tubes as a natural relief to greatly congested lungs.

After consultation, it was resolved to bleed from the arm to eighteen ounces, and follow this immediately with a sedative dose of ten grains of calomel with three grains of henbane; and afterwards to give one-eighth of a grain of tartar emetic, and two grains of calomel, at intervals of three hours for three successive

times, with a view to keep up the sedative effect, and to induce absorption of the blood effused into the air cells. Perfect quietude enjoined, with a diet of cold, thin gruel.

Further details of the treatment need not be given. On the 15th, Drs. Walker and Mr. Macdougall sent for in haste at half-past seven A. M. Hemorrhage returned to nearly three ounces, in one gush, and followed by fatal syncope. Heart ceased to beat at twenty minutes past eight A. M.—*Lancet*, July 22, 1848.

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91. *Death during the Inhalation of Chloroform.*—M. Robert, surgeon to the "Hôpital Beaujon," reports the following case:—"A young man, twenty-one years of age, was admitted, on the 25th of June last, into the 'Hôpital Beaujon,' for a severe fracture of the shaft of the femur, caused by a ball which had traversed the limb from before backwards. Disarticulation of the thigh was decided upon. The patient was put under the influence of chloroform by means of the apparatus, divided by a spiroid diaphragm made of netting, and provided with a large mouth-piece; the nose was secured by an assistant. In three or four minutes there were a few convulsive movements pointing to the period of excitement, and soon after a complete state of relaxation came on. A large anterior flap was then made, beginning three fingers' breadth below the anterior superior spine of the ilium; hardly any blood was lost. The patient at this moment woke, and M. Robert desired that more chloroform should be given, and continued the operation. Hardly had a quarter of a minute elapsed, than a loud stertorous breathing was heard, and the apparatus was withdrawn. The patient's face was extremely pale, lips blanched, and the eyes, the pupils of which were greatly dilated, were drawn so high upwards as to be hidden by the upper lid. The operation was immediately suspended. The pulse at that time was hardly perceptible, all the limbs were in a state of complete relaxation, and the breathing was heard at long intervals. Frictions, irritation of the pituitary membrane, forced movements of the arms and of the ribs, were resorted to; several times the respiration seemed to become more vigorous, and the pulse more distinct, but this was but a momentary improvement, and it was but too apparent, after three-quarters of an hour of incessant efforts on the part of the persons present, that the patient had ceased to exist. The sudden paleness of the skin, the annihilation of the pulse, evidently pointed to syncope; and as the latter cannot be ascribed either to hemorrhage or a protracted operation, it must be concluded that syncope was the immediate result of the inhalations of chloroform; the more so, as none of the symptoms of the admission of air into the veins were present. The special kind of wound which the patient had received, as well as the stupor and shock consequent upon it, should, at the same time, be taken into consideration, besides the deep dejection and despair in which he was plunged."—*Lancet*, Aug. 5th, 1848.

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92. *Death following the Inhalation of Chloroform.*—By M. Gorre, Surgeon-in-chief to the Hospital of Boulogne. (Communicated to the Academy of Med., July 4th, 1848.) Mlle. Stock, a young person thirty years of age, well formed, enjoyed habitually good health. I ought to state, however, that she had consulted me some months previously for palpitation, which appeared to me to depend on a chlorotic state, and on which preparations of iron had the happiest effect. Her health since then had experienced no change!

Some weeks since she was thrown out of a carriage, and besides some contusions, the result of the fall, she was wounded in the thigh by a splinter of wood, which made its way beneath the skin, without leaving any trace besides a very small laceration, and the presence of which was not then recognized. Her medical attendant applied some leeches over this point. Fluctuation being soon manifest, he proposed an incision, but the patient refused. Some days afterwards pus escaped in some quantity through a spontaneous opening, and as the suppuration did not cease, I was called to the case. I easily made her understand that a free incision was necessary for her complete recovery. She now consented, but on condition that I should put her under the influence of chloroform. I had no reason to refuse her request. I went next day with some chloroform, the good quality of which cannot be doubted, as it was supplied from the Chemical Laboratory of Quesneville.

I found my young patient in her usual good spirits, free from all fear; her usual medical attendant was present, and a midwife, to render assistance. Everything being ready for the operation, in itself very insignificant, I placed over the nostrils of the patient a handkerchief moistened with from fifteen to twenty *drops at the most* of chloroform.

Scarcely had she taken several inspirations, when she put her hand on the handkerchief to withdraw it, and cried with a plaintive voice, "I choke!" Immediately the face became pale; the countenance changed; the breathing embarrassed; and she foamed at the mouth. At the same instant (and that certainly *less than a minute* after the beginning of the inhalation), the handkerchief moistened with chloroform was withdrawn. But persuaded that the bad symptoms were only evanescent, and that it would suffice for the effect to cease to have suppressed the cause, I hastened to pass a director into the small fistulous wound in the thigh and to lay open the abscess in its whole extent—that is to say, between two and three inches, and I withdrew from the bottom of the wound a small, thin, and pointed splinter of wood. During the infinitely short time occupied by this little operation, my colleague sought by every means to remedy the threatening annihilation of life. I joined him, and both of us put into force with activity the measures most likely to prevent a fatal issue.

Frictions upon the temples and the precordial region, throwing cold water on the face, tickling the fauces with a feather, blowing air into the air-passages, ammonia to the nostrils, everything that it is possible to do in such a case, was tried by my colleague and myself, during more than two hours. We were willing to believe that there was only a suspension, not an abolition of the sensorial functions. It seemed impossible that the inhalation of so minute a quantity of the anæsthetic agent during so short a time, (not, indeed calculated by the watch, but certainly not more than a minute,) had been sufficient to extinguish life. Our efforts were vain!

This death, though we clung to the belief that it was but apparent, was real: and it had been so prompt, that already it was without doubt complete at the moment when I made the incision. I can only give a just idea of the lightning-like rapidity with which it was produced, by saying that it recalled to me most accurately death from the accidental introduction of air into the veins. The details of the very minute examination give value to this analogy, the idea of which struck me when observing the symptomatic expression of the last moments of life.

Autopsy 24 hours after death.—Exterior aspect. The right side of the face presents several large eschars, the skin being, as it were, parchment-like: these eschars are due to the ammoniacal frictions made to recall life. Complete ridigity of the limbs; cornea dull; abdomen distended with gas; a blood-stained bandage covers a wound at the internal superior part of the right thigh.

Head.—Scarcely any blood flows from the cutaneous incision. The superior longitudinal sinus is empty; the veins on the convex surface of the brain are not engorged, but they present this remarkable peculiarity, that the column of blood is broken every here and there by bubbles of gas. These veins when punctured collapse, owing to the escape of the gas. There is also air in the veins at the base of the skull. Numerous bullæ of air escaped with the blood from the ophthalmic veins, the cavernous sinuses, and the inferior cerebral veins. The lateral ventricles contain a moderate quantity of serum. The substance of the brain is firm; no drops of blood escape on cutting into it.

The air escapes, bubbling up in the midst of a remarkably black and very fluid blood, from the internal saphena and the left crural veins. The crural artery is entirely empty.

The right thigh presents, on the inner side of it, in the upper part and somewhat backwards, a wound made in opening an abscess. This wound, made through the skin and cellular tissue, is stained with black blood; the vena saphena is at a distance from the incision, and could not have been touched by the bistoury. The universal presence of air in the circulatory system called for a careful examination of the blood-vessels near the wound: dissected with the greatest care, they are found to be perfectly entire.

Chest.—The lungs, especially the left, are voluminous, and visibly engorged in the lower lobes. When cut into, a large quantity of very black fluid blood escapes.

Remarkable crepitation; pulmonary vesicles dilated by the air blown in during the last moments of life, with a view to reanimate the patient, supposed to be in a state of asphyxia. Neither interlobular nor sub-pleural emphysema; the tracheal mucous membrane is of a bright red; complete absence of froth in the bronchi; some amount of serum in the pleura and pericardium; heart excessively flaccid, of the usual size; right and left cavities absolutely empty. Not the smallest clot either in the auricle or between the fleshy columns of the ventricles; frothy blood in the orifice of the ascending cava. The pulmonary veins, opened near the auricle, allow a little blood to escape, mixed with air. The internal membrane of the heart, especially of the right cavities, is red. Its tissue is pale, and tears easily.

Abdomen.—Liver very voluminous, its colour like the lees of wine; on cutting into it, air bubbles out of the vessels along with much black and fluid blood; the intestines are distended by fetid gas. The spleen is softened, and is gorged with blood; on pressure, several bubbles of air escape from its substance.

In closing the account of this autopsy, I have particularly to notice that the blood was blacker than it is in simple asphyxia. *It was literally as black as ink.* The above post-mortem appearances lead me to the following conclusions, which I submit to the consideration of the Academy:—

Mlle. Stock did not properly, so to speak, die from asphyxia. According to all probability, her death was due to syncope caused by the sudden suspension of the cerebral functions under the influence of chloroform.

The presence of air in the venous system cannot be explained by the introduction of air into a vein imprudently opened when the incision was made in the thigh. The incision being altogether superficial and cutaneous, could not reach a vein of large size.

Nor yet was it the artificial respiration which caused the air to find its way into the circulation through the rupture of the pulmonary cells; for at the moment when the artificial respiration was resorted to, life was extinguished, if it had not been already abolished, and the action of the left side of the heart had ceased.

Thus, by shutting out other causes, one must admit, as the most probable view, the spontaneous formation of air in the veins. Was this fluid produced during life or after death?

Morgagni relates cases of sudden death, in which the autopsy revealed a large accumulation of air in the heart and great vessels, without any possible external origin. In these cases decomposition had not commenced, and no organic change accounted for the death. M. Ollivier (d'Angers) has related analogous examples, which led him to admit the possibility of the disengagement of a gaseous fluid during life, which kills after the same manner and with the same rapidity as if air had penetrated accidentally through the opening of a venous trunk contiguous to the heart.

I am consequently induced to think that the above case must be added to those singular cases of pneumatosis related by Méry, Littre, Morgagni, and among ourselves, M. Ollivier (d'Angers). In this case, it appears to me that the rapidity of the death is due to a complication of causes—namely, first, to the special deleterious influence of the chloroform upon the brain, which led, as the immediate consequence, to the abolition of the sensorial functions; and secondly, to the spontaneous development of gaseous fluid in the circulatory system, the probable result of the hitherto unexplained action of the ether upon the blood, under the circstances related.

Whatever may be the value of this explanation, one thing is certain, resulting from the case just related, and from that reported in the Lancet, that the chloroform, in certain kinds of constitution, which it is absolutely impossible for the man of science to recognize, may cause death with a lightning-like rapidity. Even in experienced hands, there is no certain safeguard against the unfortunate consequences of this agent, which only too well justify the words applied by M. Flourens to chloroform, "*a marvelous and terrible agent.*" Finally, the dangers indicated by M. Bouisson of Montpellier, and Sedillot of Strasburg, are but too real, and in face of the dangers now so thoroughly realized, it would be the highest imprudence still to employ chloroform, as has been done hitherto, for insignificant operations—such as the drawing of teeth, opening an abscess, and the application of a moxa. In future, chloroform should only be exhibited for great operations. In fact, important advantages only can compensate for the risk incurred by the patient

—a risk necessarily incurred even in acting with extreme circumspection.—*Lond. Med. Gaz.*, Aug. 1848.

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93. *Death from Chloroform in India.*—The following case occurred at Hyderabad, India, and is related in the words of the operating surgeon.

A young woman presented herself this morning with disease of the distal phalanx of the middle finger of the left hand, requiring amputation at the middle joint. As she appeared of timid disposition, and exhibited more than usual reluctance to submit to the little operation, I administered a drachm of chloroform in the usual way, namely, by sprinkling it on a pocket handkerchief and causing her to inhale the vapour. She coughed a little, and then gave a few convulsive movements. When these subsided, I performed the necessary incisions, which, of course, did not occupy more than a few seconds. Scarcely a drop of blood escaped. The patient was then put into the recumbent posture with the head low. Active means were taken to bring her out of the state of coma, into which she had apparently fallen. But although these means, including artificial respiration, were perseveringly employed for five hours, the *unfortunate woman never breathed again.* I am inclined to think that death was almost instantaneous; for after the convulsive movement above described, she never moved, nor exhibited the smallest sign of life. No opportunity was afforded me of making a post-mortem examination; so that it must forever remain a secret whether or not there were any special circumstances, such as aneurism of one of the great vessels, or disease of the heart."

[The chloroform was supplied by Messrs. Twemlow and Co., Bombay. It required a drachm and a half of the same chloroform in another case to produce a slight effect.]—*Lond. Med. Gaz.*, July 14, 1848.

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94. *Fatal Effects from Chloroform.*—Mr. R. O. Johnston states (*Prov. Med. & Surg. Journ.*, July 26th), that he has "seen two deaths from chloroform; one man was in convulsions for forty-eight hours after the operation and afterwards expired."

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95. *Death from Inhalation of Chloroform.*—The case which seems to have made most impression upon the public mind, is that of Samuel Badger, Esq., Solicitor of Rotherham, Yorkshire. It appears from the evidence given before the inquest, that this gentleman applied to Mr. Robinson, one of the most skillful dentists in London, and who has had the most extensive experience in the administration of anæsthetic agents, (he stated in his evidence that he had administered anæsthetic agents in at least three thousand cases,) to have some teeth extracted. Mr Robinson put only a drachm and a half on the sponge of the inhaler. The instrument was not held close to the mouth or face—the deceased had not inhaled it more than a minute, when it appeared to have produced so slight an effect, that he requested to have the vapour made stronger. Before this could be done, however, the head and hand of the deceased dropped—*i. e.*, in one second after he had spoken to the operator. A period of about *five minutes* elapsed from the time at which the deceased entered the surgery to his death. When seen by Dr. Waters, who had been sent for, immediately afterwards, the face was livid, the pupils dilated, and the temperature of the body lower than natural. The following were the post-mortem appearances:

"The body was well formed and muscular; the neck plethoric and rather short; countenance of a bluish livid appearance; eyes [pupils?] dilated, particularly the left; chest well formed, but generally dull all over on percussion, particularly the right side; parietes less resonant over the heart's region than in the natural state. Abdomen prominent, from a deposition of fat; dullness on percussion, extending into the right iliac region; lower extremities not œdematous. On dividing the scalp there was observed some turgescence of the vessels. The membranes presented a congested appearance all over the cerebral mass; there was nothing abnormal in the cerebrum, nor any effusion into either ventricle; the surfaces of the corpora striata and optic thalami were slightly congested; the cerebellum and pons Varolii offered nothing remarkable. On raising the sternum, observation was made of the very small diameter to which the chest was reduced, for it was found that the lungs and heart were pushed upwards to a line extending

between the third and fourth ribs; the lungs were healthy and crepitant throughout their entire extent; there were some adhesions on the right side, of long standing, but no marked congestion.* On dividing the pericardium, no undue effusion of serous fluid was found. The heart looked of a paler colour than usual, and was flaccid, but was not in a hypertrophied or dilated condition; some spots of adipose matter were observed here and there on its surface. On dividing the left ventricle, its walls were found thinner than natural, and its tissue was interspersed with 'fatty' degenerescence; this morbid state was particularly observable at the apex, where the muscular tissue only measured about two lines, and the abnormal deposition was very evident at this point; the right ventricle and septum offered nothing remarkable but the lesion of secretion already observed; both ventricles contained clots of dark grumous blood. The inner surface of the aorta felt rather rough, and the mitral valves were unequal at their edges, with some slight rugosity; on dividing their base, the tissue was hard, and made a grating noise under the scalpel. Abdomen: The omentum was loaded with fat; stomach not distended by gases; liver preternaturally enlarged, and extending upwards in a line between the third and fourth ribs; it was of a pale brownish colour, and in some parts almost approaching to a dirty white; this was particularly observable in the Spigelian lobe, where the fatty degenerescence was very evident; there appeared to be no other change of structure. It weighed *eight pounds*. The other organs of the abdomen were healthy."

The editor of the *London Medical Gazette*, in commenting on this case, remarks: "The unfortunate case of Mr. Badger is sufficient to show that even they who are most experienced in the use of this agent, are not always able to discriminate those cases in which the inhalation of the vapour is likely to be attended with fatal effects. The deceased was a healthy muscular young man, who, according to the testimony of his father, had suffered from no difficulty of breathing, or any other apparent disease. The inspection of the body, however, revealed a diseased state of the heart and liver, although not sufficient to account for sudden death. Hence we arrive at the conclusion that a young and healthy-looking person, whose appearance and previous habits of life would create no suspicion of the existence of latent organic disease, may still be in such a condition of body that the respiration of the vapour will operate upon him like a fatal poison. It is not here as with a liquid or solid taken into the stomach—the poison enters at once into the circulation, and penetrates through the whole of the system; and but a few minutes elapse between apparently perfect health and the death of the patient. The circumstances under which the poison is administered, do not, in these unfavourable cases, admit of the application of any remedy. The attempt to abstract blood has uniformly failed. Art is powerless in dealing with the poisonous effects of this vapour. It may be said, and we doubt not the truth of the statement, that hundreds, nay, thousands of persons, young and healthy-looking like the deceased, have inhaled this vapour without any such disastrous effects following. We have, however, heard of some very narrow escapes, even where precaution and skill of the best kind had been employed in its administration; and doubtless the experience of many of our readers will furnish them with cases corroborative of this remark. But the death of only one person in a thousand, when the vapour has been skillfully administered—and there was nothing in the patient's aspect or account of himself to induce the operator to withhold his consent to its employment—becomes a most serious matter. There should be some extraordinary advantage or benefit to the individual to justify such a fearful risk; but the advantage, if any, in reference to the dental art, is the alleviation of pain merely for a few minutes; and the naked question now to be considered is, will any operator feel himself justified, after the case of Mr. Badger, in employing this dangerous vapour for the annulling of pain in the extraction of teeth? If latent disease of the heart or liver could always be clearly diagnosed in a patient, we should not be called upon to put this question: but as Mr. Badger's case proves that a most experienced man like Mr. Robinson saw nothing about the deceased to justify his refusal to employ chloroform, it is clear that the most skillful dentist may be working in the dark, and thus unconsciously be the means of sacrificing

* In his evidence at the inquest, Dr. Waters stated that the lungs presented a little sign of congestion.

life for the sake of humouring a patient by annulling a degree of pain which every healthy adult should be able to bear. The facts of this case have, however, a bearing far beyond dentistry. We consider that our remarks apply to all the minor operations of surgery."—*Lond. Med. Gaz.*, July 14, 1848.

96. *Anæsthesia in Ophthalmic Practice.*—We have, in a previous article, (see Art. 57, p. 476,) quoted the observations of Mr. WILDE on this subject, which appear to be so just, that we need add nothing here further in relation to it.

97. *Use of Anæsthetic Agents in Dental Operations.*—Mr. TOMES, in his scientific and highly valuable lectures on Dental Physiology and Surgery,* in speaking of the superinduction of anæsthesia in dental operations by ether, observes:—"At first the reports were all in favour of the new agent, but as time passed on, and the cases multiplied, we heard, at intervals, of unfavourable conditions produced by the inhalation of ether. The effects were more lasting than the operation required: and, in one or two instances, the patients died without ever having fully recovered from the effects of the anæsthetic agent."

Further, he states that, "Ether is now but rarely used, and if it were employed, there is, I think, sufficient evidence in Dr. Warren's work, and in the various papers that have from time to time appeared in the medical periodicals, to necessitate the conclusion that its use should be discontinued in ordinary cases of extraction of teeth, and that it should be employed only in serious operations in which there is great and prolonged pain."

Mr. Tomes, in the work from which we have just quoted, offers the following just views relative to the employment of anæsthetic agents in dental operations.

"I have brought before you," he observes, "the untoward results that occasionally follow the inhalation of chloroform, not with the view of prejudicing you against its use in proper cases, but to guard you against using it needlessly—that you may properly proportion the risk to the advantage. So far as we know, not one in five, or perhaps ten thousand, would be killed by chloroform, if it be cautiously administered. But, supposing even one in ten thousand will be killed, and we cannot tell which that one will be, it is surely unwise to take even that risk, merely to avoid pain that is very bearable, and will not last more than three or four seconds. We surely use a great power to overcome a very trifling difficulty, when we give chloroform preparatory to extracting an ordinary tooth.

"The remedy in my mind seems strangely out of proportion to the evil to be avoided."

"Then again, if the mind is to be disturbed for a week or fortnight (and these cases are not so uncommon), is it well to take that chance merely to avoid a transient pain?

"Distressing nausea for a day would be, to me, a far greater evil than the pain occasioned by the extraction of an ordinary tooth. I say an ordinary tooth, because sometimes there is inflammation of the gums, or a peculiar shape or position of a tooth, or other complication, that makes the operation unusually painful.

"If such complications exist, or if several teeth have to be removed at the same time, then, the pain being greater, we are, perhaps, warranted in using a powerful antidote.

"With some states of the system it is deemed dangerous to exhibit chloroform, however desirable the immunity from pain may be.

"Supposing we decide upon narcotizing a patient before removing a tooth, it becomes a question how far the narcotism should be carried—whether we should strive to get perfect immunity from pain, or whether we should be content with lessening its degree; and what should be our treatment of the patient during, and after, the narcotism.

"To arrive at a satisfactory conclusion, requires that we should consider the manner in which the phenomena that indicate narcotism succeed each other.

"The order in which the various vital powers are suspended is not always the same. Thus, in one case, it is seen that the patient retains the power to see, hear and feel, so as to recognize contact, while he is unable to feel pain; when in an-

* A course of Lectures on Dental Physiology and Surgery, delivered at the Middlesex Hospital School of Medicine. By John Tomes, Surgeon Dentist. London, 1848.

other, the senses are paralyzed, but the knife excites cries, and efforts to resist. Then again, in a third case, the senses and the voluntary muscular system are equally narcotized. But whichever of the three conditions is present, the patient after recovery, is equally oblivious as to what has been done during the time he was under the influence of the chloroform.

"I believe it is generally agreed by those who are conversant with the exhibition of chloroform, that when the pupil dilates, and the eyelid falls involuntarily, then an operation may be commenced; and that a higher degree of narcotism is unnecessary. Now this is, I think, going farther than is needful to insure immunity from pain in an operation like tooth-drawing. I have found it sufficient to gain partial insensibility. On many occasions the patient has been perfectly aware of the steps of the operation, has felt the instrument grasp the tooth, and then a dragging, and yet little or no pain. If you direct a patient to tell you when he feels himself going off, and at that moment extract the tooth, he will feel little or no pain. I have adopted this plan when necessitated to exhibit chloroform, under the belief that the less the degree of narcotization the less will be the risk of injury to the patient.

"I prefer the minimum dose of chloroform in dental practice on another ground.

"When serious operations are performed, and a large amount of chloroform is given to gain immunity from pain, and save the patient from the shock to the system that would otherwise result from the operation, the patient is carried to bed and is kept perfectly quiet, and possibly sleeps till the effect of the narcotic has gone off. Not so in dental practice. The patient inhales the vapour, falls into a state of insensibility, the tooth is taken out, and, so soon as he recovers sufficiently, returns home. The case, so far as the dentist is concerned, terminates here; we hear no more of the patient. But, unfortunately, there are many instances in which the medical attendant does. His case begins where the dentist's ends. The patient is attacked with headache, with sleeplessness, or sickness, or collapse, or some other indication of indisposition.

"The narcotism ordinarily induced by dentists, previous to extracting teeth, is certainly less in degree, and less prolonged than that produced when serious operations are performed. Yet I believe that the results are more mischievous. I cannot see why this should be the case, unless it is that with the dentist the patient is roused up, and required to use the mind before it has fully regained its proper condition; and that the use, when only partially recovered, is productive of injury.

"On this ground, I think it is desirable that, in dental operations, the minimum amount of chloroform that will insure anæsthesia should be used; and further, that the dentist should not use it at all unless the case be such as to necessitate it."

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98. *Chloroform in Midwifery.*—Prof. Murphy gives the following conclusions as the result of his experience of the action of chloroform in labour.

1st. It does not interfere with the action of the uterus, unless it be given in very large doses, which is never necessary.

2d. It causes a greater relaxation in the passages and perineum; the mucous secretion from the vagina is also increased.

3d. It subdues the nervous irritation caused by severe pain, and restores nervous energy.

4th. It secures the patient perfect repose for some hours after her delivery. These three last effects consequently render an operation much easier to perform and the recovery of the patient afterwards much more favourable.

5th. The order of its effects on the vital functions seems to be, loss of sensation, partial loss of voluntary motion, loss of consciousness, complete loss of voluntary motion, stertorous respiration, loss of involuntary motion, cessation of the action of the uterus, of respiration, of the action of the heart.

6th. Its injurious effects, when an ordinary dose is given, seem to depend upon constitutional peculiarities, or on improper management. Much excitement about the patient may render her violent. Catalepsy has occurred in some; clonic contractions in others. Some patients are slow in recovering from the effects of a large dose; they remain giddy during the day, and sometimes faint when they stand upright.—*Chloroform in the Practice of Midwifery.* By E. W. Murphy, M. D. London, 1848.

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

On a Physical Sign of Pneumonia of the Apex of the Lung. By Wm. Boling, M.D.

Isaac Hays, M.D., &c. *Montgomery, Ala., Aug. 11th*, 1848.

Dear Sir—Will you please to make room in your Journal for the following attempt to explain a paragraph which appears in a brief article in the *American Journal of Medical Sciences* for July, 1847, under the caption, "*A Physical Sign of Pneumonia of the Apex of the Lungs;*" and which seems to have been construed by the author of the report submitted to the National Medical Association, on American medical literature, in a sense different from that intended?

It is remarked in the report, in reference to the physical sign alluded to, that "the committee can affirm at least, that it is not constant." In the paper *six* cases of pneumonia commencing in the apex of the lungs, are spoken of, in only *three* of which is it stated that the sign was present. There is, then, no difference of opinion between the author of the report and myself, on this point.

It is also stated in the report, that,

"It was extraordinary if, as Dr. Boling asserts, the chest remained still resonant on percussion over the apex of the lung in a state of hepatization."

If I have said this, I really did not intend to do so. Here is what I did say—speaking at the time in reference to the *three* cases in which the peculiar sign described in the paper was *not* present.

"In the other cases the lung run most rapidly into a state of hepatization; the solidification not being preceded by the crepitant rhonchus, but by a total absence of the respiratory murmur, while the chest over the affected part remained still resonant on percussion."

I cannot see how the latter clause of the above sentence can be understood to have reference to the sound yielded on percussion *after* hepatization had supervened. On the contrary, it seems, and is intended at least, to have reference to the phenomena that *preceded* the hepatization or *solidification* of the organ. No one certainly can suppose that the words hepatization and *solidification*, as used in the sentence, refer to different conditions of the part affected. I did not, I repeat, mean to say—as it is asserted in the report that I did say,—that "the chest remained still resonant on percussion over the apex of the lung in a state of hepatization," —but that, in the *particular cases* alluded to, during the stage *preceding* that of hepatization or solidification—the chest remaining still resonant on percussion—there could be heard neither a crepitant rhonchus nor the respiratory murmur.

I fear, however, that I have been unable to express my meaning more plainly than it appears in the sentence which I have here striven to elucidate; but, as I have not been understood, and as there may possibly exist others who may place the same construction on the sentence in question

that the author of the report has placed upon it, I deem it but proper that I should, at least, attempt an explanation.

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Cases of Neuralgia. By ALBERT T. WHEELOCK, M. D., Belfast, Maine. —The following case of neuralgia had been of four months' standing. The patient was a very intelligent female of the nervous temperament, delicate constitution, aged about twenty-three, had been married about two years, and had one child, which was healthy. The pain was paroxysmal, of a very severe kind, seated in the jaws and side of the face, recurring every day; but at no regular time during the day, sometimes coming on in the forenoon, sometimes in the afternoon, but rarely in the night. It had immediately followed the extraction of the second molar tooth in the lower jaw. The pains were of the most acute kind, lasting several minutes, so overcoming the patient that she would lose control of herself entirely. The disease was evidently affecting her general health; she became emaciated, and her features, which were regular and extremely beautiful, were becoming altered by the effects of it on the whole nervous system. The disease was in its full severity and apparently growing worse when she was put under medical treatment. She was now ordered a simple emetic of ipecacuanha, to be continued every day for ten days, to be taken every morning about ten o'clock, after a breakfast at seven of bread and butter only, without tea or coffee. The remainder of the day the meals were to be of the usual mixed diet, with the exception of tea and coffee. A teaspoonful of a mixture of equal parts of tincture of opium and alcohol was taken in a third of a tumblerful of water thickly sweetened with sugar, as soon as vomiting had ceased, and the same again about two hours after tea time. On the third and seventh days of the ten days, during which emetics were given, a large blister was applied over the spine between the shoulders. There was not any return of the pain after the treatment was commenced or after the first emetic. And although some months have elapsed, there has been no return of the disease. The bowels were somewhat costive during the treatment, but no cathartics were given, this circumstance being intentionally and entirely unattended to. The emetics vomited generally three and four times each.

December, 1847. Mrs. G., case of neuralgia of eight years' standing; age of patient thirty-five—no children. She had tried various remedies, such as blistering, tonics, division of the part of the facial nerve that seemed to be the seat of the trouble. The complaint was relieved at times under this treatment, apparently but not certainly so, as there had always been since the supervention of the disease, intervals of several weeks of entire freedom from it, when it would again recur daily. The pain was of the severest kind, disabling the patient from her usual domestic employment. The paroxysms generally lasted a considerable part of the day; these usually came on at periods of from one, two, or three days, to several weeks. She always felt the premonitory symptom of a kind of fullness about the head sometimes for twenty-four hours previous to the paroxysm. She called the complaint the nervous headache. It had remained about the same for several years without much treatment of any kind; when she was placed under my direction. She was ordered an emetic daily, to live on a vegetable diet, and to take after the vomiting and also at bed time a tablespoonful of a mixture of equal parts of tinct. opii, alcohol, mucilage gum acacia, and simple syrup. This treatment was pursued for fourteen days; it evidently broke up the paroxysms for the time, but a cure was

not effected. Owing to the discouragement of the patient, no other course of remedial measures was undertaken.

June, 1846. The following case had been one of some months' duration. The patient was a delicate female, of a pure healthy constitution, with much activity of mind and body; aged about twenty-six; had been married five years; no children. The pain came on usually about noon, of a severe kind, running up the side of the face, over the eyebrow, and to the nose. There never was more than one paroxysm in a day. She had been taking some of the vegetable tonics, with nourishing food and wine. She was now ordered an emetic of ipecac. every other day, to live on vegetable food, without tea or coffee. This was to be continued till she had taken eight emetics. The emetics were to be taken every morning two hours after a light breakfast, and at noon of each day two drachms of the following: ℞.—Tinct. opii, alcohol, mucilage gum acacia, āā ℥ij. During the term of the time that emetics were taken, three blisters were applied to the spine between the shoulders at intervals of five days. She was of so unusual a delicate habit for this region of country, although apparently of perfect constitution and natural health, that we were obliged to suspend the emetics once or, twice, as she was too severely prostrated to continue them rigorously. She has had no return of the disease since she commenced with the first emetic a, period now of two years. Owing to the confined state of the bowels from the use of the opiate, she took a Rochelle powder two or three times during the treatment. From the preceding accounts it would seem, that in the cases of short standing, we succeeded in breaking the chain of morbid action by a vigorous and systematic course of treatment.

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Case of Enlarged Heart in an Infant. By M. R. Trevor, M. D., of Alleghany city.

The child, the subject of the following remarks, was born on the 29th Feb. 1848, apparently healthy. Parents healthy, but with a hereditary scrofulous taint on the mother's side: all of her father's brothers and sisters having died of phthisis pulmonalis, and her father is at present strongly predisposed that way. On the 16th May, I was called in to see the child (then two and a half months old), on account of a *diminution* of the *cry;* no other symptom being observed, no treatment was adopted. On the 16th of June following, was called again to see the child on account of violent illness, which had commenced on the evening before. Parents state that since the 16th of May the child had continued well, except the diminished ability to cry, and a slight cough. Slept well in any position; nursed freely, and continued to grow strong and plump. *Symptoms*—commencing on the evening of the 15th and continuing till the evening of the 16th, when the case terminated:—Great difficulty of breathing, severe pain indicated by a suppressed cry with each expiration, most laborious and violent action of all the muscles of respiration; the diaphragm agitated more forcibly than in the severest hiccough; surface pale and cold; pulse could not be distinguished on account of the extreme restlessness; head thrown back, pupils contracted; general expression of eyes dull. *Auscultation.*—Respiration puerile, *loud* and *strong*, and even above this could be distinctly heard a bellows-sound accompanying each systole of the heart. There was no cessation or remission of these violent symptoms for nearly twenty-four hours, when the case terminated by exhaustion; child three and a half months old. *Post-mortem appearances.*—The left side of the chest slightly

elevated above the right. On opening the chest (with the assistance of Dr. T. H. Elliot, who had seen the case before death), we found the heart enormously enlarged. Hypertrophy with dilatation principally of the left side: the heart occupying nearly all of the left, and at least one-third of the right side of the chest. Walls of the left ventricle six lines thick. Largest circumference of heart circularly, eight inches six lines, largest circumference longitudinally eight inches five lines; valves healthy. Pericardium contained f℥i of serum. Left lung atrophied, occupying but a small space in the posterior part of the left side; middle lobe of right lung very much encroached upon by the heart. Substance of lungs healthy. Weight of heart not ascertained. Pericardium not adhering in any part. *Queries.* Was the disease congenital? If not, what could have produced it at so early an age? Why were there no other symptoms or disturbances of circulation and respiration until twenty-four hours before death?

DOMESTIC SUMMARY.

Typhus and Typhoid Fevers.—By Joseph M. Smith. M. D., Prof. of Pract. Med. in Coll. Phys. and Surg., Chairman of Committee on Pract. Med. A. M. A.

Of all forms of infectious diseases, the one from which the greatest amount of mortality has occurred in most of the larger Atlantic cities of the North-eastern and Middle States, during the committee's term of service, is typhus, or, as it has been generally called, ship fever.

Though typhus is not perhaps as strictly entitled to the term epidemic as some other distempers, being never equally rife in the different classes of society, but mostly confined to persons dwelling in confined situations, in the midst of human filth, yet its prevalence is sometimes so extensive, and its diffusion so clearly owing to the agency of a peculiar atmospheric influence, that there is no sufficient reason for not considering it as occurring epidemically. That it conforms to the law of periodicity, which determines the recurrence and spread of certain other maladies, is shown by its history in various countries. Pursuant to that law, though it may never be absent from a city or district, it increases at times, and after raging for a season, declines like other epidemics. Dr. Alison says, in speaking of the contagious fever of Edinburgh, that "there have been three great epidemics of that disease in the last twenty-two years, beginning in 1817, 1826 and 1836, (the last of which has now nearly subsided,) each lasting nearly three years, and each of the last two affecting, he believes, nearly ten thousand persons."* Of the typhus of Glasgow, Dr. Davidson remarks "that a severe epidemic of one 'or two years' duration is never succeeded by another until several years have elapsed."† Similar facts illustrate the epidemic character of typhus in other European cities.

On examining the records of deaths from typhus‡ for the last thirty-five years in the city of New York, it is found that the disease was epidemic in that period four times, viz: in 1818, 1827–28, 1837, and 1846–47. In these years the increase of the disease was so remarkable, that there is no hesitation in pronouncing them epidemic typhus periods. The fact now referred to was strikingly exemplified in 1837. In that year the mortality from typhus was 338, while that of the preceding year was but 117, and that of the following only 104. From this time, though the amount of mortality annually varied, there was no notable increase of deaths from typhus until 1846, when the number rose to 256; and the disease continuing to prevail and with increasing severity, the deaths in 1847 reached the frightful sum of 1396, to which should be added very many of 657

* British and Foreign Medical Review, No. xxi. p. 27.

† Thackeray, Prize Essay, p. 55.

‡ In enumerating the deaths from typhus, we include the deaths from what is called in the bills of mortality *typhoid fever.*

deaths from dysentery, a disease which, in a large proportion of the cases in the hospitals, was typhus fever.

The foregoing facts fully warrant the inference that the diffusion of typhus is favoured by a peculiar aerial influence which occurs periodically. Such an influence is sometimes very widely extended. It is said by Barker and Cheyne, in speaking of the epidemic typhus period of 1817–18, as quoted by Dr. Davidson,* that "it must be acknowledged that the simultaneous increase of the disease in Ireland, and on the Continent, leads to the inference, that whatever may have been its origin, an epidemic constitution prevailed over a great part of Europe during a series of years past." Now such an epidemic constitution has manifestly prevailed over the British Isles during the years 1846–47; and its influence, in its western direction, appears to have extended across the Atlantic ocean to the shores of our North-eastern States and the adjacent British Provinces.

But coincident with this wide-spread epidemic meteoration, were other causes more immediately influential in predisposing to typhus on both sides of the Atlantic. The more efficient of these causes, especially in Ireland, were famine and the evils, physical and moral, attendant upon it. Whilst starvation and disease were destroying thousands of the poor in that ill-fated land, multitudes of them, to escape from calamities so fearful, sought to ameliorate their condition by a removal to this continent. In no annual period in the history of emigration, has the number of foreigners, added to our population, equaled that of the last year. It has been estimated that about a quarter of a million of emigrants arrived in the United States in 1847.† Of this number, 160,134 landed at New York, and the remainder mostly at Boston, Philadelphia, Baltimore, and New Orleans. Thousands also entered our country by the way of Canada and New Brunswick. A very large majority of those who landed at New York were Germans and Irish. It is stated by the New York Commissioners of emigration, that of the 129,062 passengers arrived at that port, from May 5th to December 31st, 1847, 53,180 were from Germany, and 52,946 from Ireland, thus showing that the emigration from the former country exceeded that from the latter.

The condition of the German and Irish emigrants prior to their embarkation, and during their transit of the ocean, was in most instances conspicuously different. Whilst the former were generally robust, and well provided on the passage with the means of subsistence, and observant of cleanliness and ventilation,—the latter were in most cases enfeebled from the want of sustenance, and on shipboard, destitute of supplies of wholesome food, depressed in mind, clothed in filthy garments, and crowded and confined in air rendered pestiferous by the excrementitious matters eliminated from their own bodies. In contrasting the hygienic circumstances in which the two classes of emigrants were placed, it is easy to account for the greater amount of sickness and mortality which occurred in one class than in the other. It is said, that of the admissions of emigrants into the hospitals and almshouse of New York, the Irish exceeded the German in the proportion of about one to nine or ten; and we are told, that the Irish in British ships suffered more than those in American.

The amount of disease and number of deaths which occurred in emigrant ships, while crossing the Atlantic, are appalling to contemplate. Many thousands perished on the voyage to the United States and Canada. In some ships bound to New York, from 20 to 30 died on the passage; and in many vessels destined to Canada, the deaths were from 30 to upwards of 100. From one ship, the Virginia, bound from Liverpool to Quebec, with 470 passengers, 158 of the number were buried at sea.

The Montreal Immigrant Committee, in their report for 1847, state, that "in no year since the conquest has Canada presented such fearful scenes of destitution and suffering." "The year 1847 has been unparalleled for the amount of immigration to Canada; near 100,000 souls have left the British isles for these provinces the past year,—over 5,000 of these died on their passage out, 3,389 at Grosse Isle,

* Thackeray, Prize Essay.

† It appears from the report of the Secretary of State to the House of Representatives, that the whole number of passengers who arrived in the United States during the year ending Sept. 30th, 1847, was 239,480.

1,137 at Quebec, 3,862 at Montreal, 130 at Lachine, and 39 at St. Johns, making in all at these several places 13,815. How many have died in other sections in Canada East cannot now be known, nor, indeed, how many have perished in Canada West; but coupling all those who have perished with those who have passed into the United States, Canada cannot now number 50,000 souls of the 90 odd thousands which landed upon our shores." In sketching a retrospect of these terrific scenes, the Montreal committee forcibly remark—"From Grosse Isle, the great charnel house for victimized humanity, up to Port Sarnia—along the borders of our magnificent river, upon the shores of Lakes Ontario and Erie, and wherever the tide of immigration has extended, are to be found the final resting-places of the sons and daughters of Erin—one unbroken chain of graves, where repose fathers and mothers, sisters and brothers, in one commingled heap, without a tear bedewing the soil, or stone to mark the spot. Twenty thousand and upward have gone to their graves, and the whole appears, to one not immediately interested, 'like a tale that is told.'"

The disease of which the emigrant passengers, and in many instances, the officers and crews of ships, perished at sea, and of which a great number were ill on their arrival in the United States and Canada, was typhus in its genuine form. In some ships dysentery, small-pox and measles swelled the amount of mortality, and added to the number of sick that reached the ports of destination. From some ships upwards of 100 ill were landed at the New York quarantine station; and so great was the influx of sick and destitute emigrants, during the summer of the last year, that the public and private hospitals and almshouse were filled to overflowing, and sheds and tents were erected for their accommodation. In stating these things we cannot withhold the grateful remark that, in providing these accommodations, and furnishing other means of comfort, the same spirit of benevolence was manifested, which animated our countrymen in sending ships laden with supplies of food to the famishing in Ireland.

The number of persons admitted into the marine hospital at Staten Island, in the year 1847, was 6,932. Of this number, 5,277 were sick with fever, and 662 died. In that hospital, 2,229 cases were registered as typhus fever, of which 457 died, and 3,020 as remittent and typhus remittent fever, of which 205 died. There is reason to believe that many of these latter cases, landed from emigrant ships, were typhus; but excluding these, the total number of deaths from typhus at the quarantine hospital and within the city of New York, was scarcely less than 2,000.

But besides those admitted into the hospitals immediately after their arrival, or who sickened in the city and were sent to the hospitals, there were many who became victims of the disease at places, more or less distant, in the countries over which they were dispersed.

The effect of introducing so great a multitude of persons affected with typhus, or imbued with the *fomes* of the disease, into the midst of the resident population, could not be otherwise than to excite alarm, and, in fact, to extend the disease. Wherever the emigrant sick were congregated in masses, or collected in small numbers, or wherever individual cases were confined in small, unclean, and ill-ventilated apartments, the disease frequently attacked those who were in constant or occasional communication with them. From such communications nurses, physicians, friends, and transient visitors to the sick, have suffered in numerous instances. Of the medical officers in the New York and neighbouring hospitals and almshouses, not less than eight, mostly in the vigour of early manhood, and while engaged in active duties, giving promise of future distinction in the ranks of the profession, have, during the epidemic, been numbered with the dead.*

But though the disease amongst residents has, in most instances, been traceable to exposure to the poison emanating from the persons and effects of emigrants, there is reason to believe that it has, in some instances, originated *de novo* in the close

* Dr. Harrison states that, "with regard to the ship fever at New Orleans, it has not been complicated with or modified in any way by the yellow fever. It has been entirely confined to the hospitals, no persons that I have heard of being attacked out of doors. Several of the visiting physicians, Sisters of Charity, students, and others of the Charity Hospital, have been attacked, and some have died; but the disease has been confined to the cases I have now mentioned."

and sordid dwellings of the poor in our large sea-port towns; and that the mortality from the disease has been augmented from such sources. This statement derives support from the circumstance, that the diseases prevalent in our northern Atlantic cities for the last two or three years, and especially in New York, have manifested a decided adynamic diathesis, a circumstance indicating, it is believed, the existence of a meteorations influence, which not only develops a predisposition to typhus, but favours the production of the poison of the disease.

As to the mode in which the late typhus, or ship fever, has been propagated, the committee are not disposed to enter into an elaborate disquisition. The question whether typhus is diffused by a specific contagious principle, or by a vitiated human effluvium, may be regarded as theoretical, and therefore affords grounds for a diversity of opinion. The fact that patients affected with the disease, in certain conditions, are *foci* of the typhus poison, must be granted by all observers. But the admission of this fact does not necessarily impose the obligation to consider the poison a specific *virus*, analogous in its origin and distinctive properties to that of small-pox or measles; and that it is not so, is the view taken of it in this report. As here contemplated, it is the product of the chemical changes which take place in the excretions or *debris* of the body in health and disease, accumulated in close apartments,—a poison more frequently and readily generated by the exhalations and other excretive matters of typhus patients, than by those of persons suffering under other forms of the disease, or in the state of health,—a subtle aëriform principle, appropriately denominated *idio-miasma*, one of the generic forms of infection; and hence, typhus, instead of being classed among the *contagious* epidemics, is arranged among the *infectious*. In this theory is found a ready explanation of the origin and prevalence of typhus in jails, hospitals, ships, and the houses of the poor; and, also, of the mode in which cleanliness and ventilation arrest and exterminate the disease. These hygienic means, so effective against the general propagation of the disease in the upper classes of society, seem clearly to intimate the true nature and source of the typhus poison.

So entirely were the symptoms and course of the ship fever, as it occurred in New York, correspondent with the descriptions given of typhus in the standard works on Practical Medicine, that nothing in detail need be said in respect to them. It is sufficient to observe, that among the emigrants the malady was marked by great prostration at an early period of its development, requiring liberal administrations of the most efficient means of stimulation and support. Petechiæ were more general than in some former years. Though sometimes running to a fatal issue under a simple form, the disease, in its graver varieties, was generally attended with cerebral, thoracic, or abdominal complications. Erysipelas, often assuming a phlegmonous character, occurred in many cases, and frequently resulted in extensive sero-purulent deposits. Fluid collections of this kind were most common in the parotid glands, eyelids, and scalp. Secondary attacks happened in a few instances; and among the sequelæ was noticed an affection of the eyes of an amaurotic form.

As to the rate of mortality among the sick in the various hospitals of the United States and of Canada, there has been a great disparity; the differences depending on circumstances, in many cases, beyond the reach of control. In the New York hospital, as it is stated in the last annual report of the governors of that institution, "the number of typhus fever cases treated during the year, was 1,034; very many of them cases of the severest form of the disease, and demanding far more than the ordinary assistance of physicians and nurses. Of this number 136, or a little more than thirteen in the hundred, have died. This result, though it appears to be a large proportion, bears a very favourable comparison with the statistics of any other sanitary establishment under similar circumstances of disease, and affords a very striking contrast to the terrible mortality from the same cause among the recent emigrants from Europe in other parts of the continent." But though the amount of mortality has been influenced by the circumstances in which the sick in hospitals were placed, it is to be noticed that the proportion of deaths has been greater among those in the higher than among those in the lower ranks of life, a fact generally observed in the typhus epidemics of Europe.

With these remarks on the typhus or ship fever of the last year, we might close

our report, were it not that a question of more than ordinary interest, relating to this subject, demands from us a careful examination,—a question on which the profession in this country and in Europe are divided, and which, it is thought, the phenomena of the recent typhus epidemic, added to the facts afforded by former prevalences of the disease, have largely contributed to elucidate. It needs hardly to be stated that we refer to the question of the identity or non-identity of *typhus*, and a form of disease entitled *typhoid fever*. That there are two forms of fever, bearing these names, which closely resemble each other, and yet which are essentially distinct in their nature, is alleged by some of the most renowned pathologists of the age. The leading distinctive features of the two diseases are, it is affirmed, intumescence and generally ulceration of Peyer's glands, and certain other morbid conditions, in one of them, and the total absence of these phenomena in the other.

Now if, in fact, two such diseases exist in nature, the committee, in what they have submitted concerning epidemic typhus, have omitted to distinguish them, or, in other words, have committed an error in confounding distempers specifically dissimilar; for everywhere have the two forms of disease been associated and looked upon as one and the same malady. The attempt to rectify such an error, if such have been made, would involve the necessity of giving the history of two epidemics, occurring cotemporaneously in the same localities, one to bear the title of *typhus*, and the other of *typhoid fever*, and of sustaining the distinction between them,—a labour not achievable in the hands of your committee.

But it is believed that no such distinctive disorders can be recognized in nature; that the two forms of disease have not respectively a development which is peculiar or *sui generis;* that the disorders in question do not, as distinct specific affections, occur promiscuously, or side by side, in the same circumstances, from the same causes, among the same class of persons, in the same hospitals, ships, jails, and private dwellings of the poor. The grounds on which we venture to express these opinions we beg leave respectfully to state to the Association; and we do this with the more freedom, as the question of the identity or non-identity of typhus and typhoid fever should and will continue to attract attention until a unanimity in regard to it is attained among the great body of enlightened physicians.

As the two forms of disease in question are fevers, and as the problem to be solved is, whether they are, or are not, one and the same malady, it will not be improper to glance at the means by which fevers are distinguished. It is much to be deplored that the distempers comprised in the class *fèbres* have not been more perfectly disentangled, and their specific relations to one another definitively settled. That this has not been done, is owing, not to any want of labour or talent devoted to the work, but to the difficulties and obscurities inherent in the subject.

The means of diagnosis in fevers are threefold; 1st, their efficient causes; 2dly, their symptoms; and 3dly, the alterations produced in the organism discovered after death.

In regard to the efficient causes of fevers, it is evident that a knowledge of them, for the purposes of diagnosis, is of the highest value; for were they in all cases ascertainable, they would furnish not only a ready and correct diagnosis, but a solid basis on which to rest a natural classification of fevers.

In respect to the symptoms, in the absence of a knowledge of the causes of fevers, it is clear that they are the only means by which, during life, one kind of fever can be distinguished from another. But in forming a diagnosis by these means, the mode of proceeding is in some respects peculiar. Whilst the acute phlegmasiæ and most other violent local diseases are generally cognizable, by their rational and physical phenomena, immediately, or at an early period after their development, it is frequently otherwise in the case of essential fevers. These diseases are not so commonly distinguishable at first sight. In order to collect the facts from which their differential diagnosis may be deduced, it is often necessary to observe them carefully, sometimes in more than single cases, during the space of several successive days. Moreover in the phlegmasiæ, the diagnostic phenomena are for the most part local, being confined to the organs immediately affected. In fevers it is not so; the diagnostic signs are spread throughout the economy, and are slowly and successively developed, and not until a certain

number or variety of them have come fully into view, can a specific fever be recognized.

Of the anatomical alterations produced by fevers, it may be said that such of them as occur in the internal organs, and which are discoverable only after death, have no absolute claim to the character of diagnostic phenomena, since none of them are invariably present in the same specific fever, and many of them are found in different kinds of fever. There are, however, in some fevers, certain alterations in the organism so frequently revealed by autopsic examinations, that they may not improperly be admitted among the accessory means of diagnosis, especially in cases in which neither the causes nor the symptoms during life are sufficient to elucidate their distinctive nature.

From these general observations, we proceed to the question of the identity or non-identity of typhus and typhoid fever. And in doing so, leaving out of view for the present the history of their causes, we shall inquire:

1st. Whether these diseases differ so much in their symptomatology as to enable us to characterize them as distinct distempers?

2dly. Whether the morbid anatomy, and particularly the intestinal follicular lesions observed after death, indicate the diseases to be specifically different?

1. *Of the Symptomatology of Typhus and Typhoid Fever.*—In essential fevers there are a few symptoms which are common to them all; and to these symptoms are added, in particular fevers, certain phenomena which arise in the progress of the morbid movements that mark their special form and character. Now among the leading symptoms, mostly of the latter description, observable in typhus and typhoid fever, are the following: great prostration of the sensorial and muscular energies, cephalalgia, disagreeable dreams, somnolence, delirium, coma-vigil, deafness, aphonia, stupor, subsultus tendinum, picking of the bedclothes, and at imaginary objects in the air, small, frequent and feeble pulse, pungent heat of skin, petechial eruptions, sudamina, dry and brown or black fur on the tongue, accumulations of dark sordes on the teeth and gums, epigastric pain, tenderness of the abdomen, gurgling in the intestines, diarrhœa, meteorism, hemorrhage from the nose and bowels, and retention of urine.

Though such are the phenomena which occur in typhus and typhoid fever, yet all of them may not present themselves in every case; but it is observable that many of them, and especially those attendant on the last stage of fatal cases, are developed consecutively and in various degrees of force, in every individual example of both diseases.

Now it is among the phenomena enumerated, that we must seek for the diagnostic symptoms of the two diseases, if any such phenomena exist. If the diseases be specifically different, they should respectively present certain pathognomonic or characteristic symptoms. If they possess no such symptoms, nor any other diagnostic phenomena, they are obviously not distinct disorders. But let us examine the symptoms with a view to ascertain how far they indicate diseases different in their nature.

It is generally admitted that there is much variety in the symptoms of the premonitory and successive stages of typhus; and a similar variety, it is acknowledged, occurs in the corresponding stages of what is called typhoid fever. The incipient symptoms are often, for the most part, precisely the same in both maladies; and in whatever subsequent parallel stages we examine the two disorders, we find no signs by which to distinguish them as different *species* of fever. If in the several periods or stages of typhus we observe particular combinations of symptoms, we find the same combinations in the several periods of typhoid fever. Phenomena, which are usually present in typhus, are sometimes absent, or but slightly developed; and the same is true in typhoid fever. The constitutional phenomena in the latter disease are grouped, and transformed in the same manner as are those which occur in the former. So far then as the general symptomatology of these diseases enables us to form a judgment, they are essentially the same. This conclusion, it is believed, might be sustained by an appeal to numerous cases recorded as genuine examples of typhus and typhoid fever.

The phenomena on which the advocates for the distinctive nature of typhoid fever mainly rely in forming their diagnosis, are, it appears to us, totally insufficient to establish the *specific* character of the disease. The more important of these

phenomena are lenticular rose-coloured spots on the trunk, chiefly on the anterior part of the abdomen and chest, sudamina, gurgling in the right iliac region, tenderness of the abdomen, diarrhœa, meteorism, enlargement of the spleen and epistaxis. But which of these phenomena does not occur in typhus? In regard to the size, colour, situation, and time of appearance of the eruption, there is nothing remarkable in the one disease which is not equally so in the other. The eruption in typhus, though among the characteristics of the disorder, is variable in size and colour; sometimes it is of a rose hue, but frequently violet or purple, at one time persistent under pressure, and at another evanescent. Such were the varieties of the eruption in the cases of typhus, treated under the direction of one of your committee, in the New York Hospital in June, 1840, and at various times in subsequent years,—cases of the identical nature of which there was not the slightest doubt, all of them having originated from the same source; namely, the fever poison *idio-miasma*, generated in crowded emigrant ships. In no respect did the eruption differ essentially from that which occurs in dothinenteritis or typhoid fever. As to sudamina, they are common to various states and kinds of disease.

It is well known that age, constitution and modes of life, climate, season, and especially epidemic influences exert a powerful agency in modifying the symptoms of diseases; and there is good reason to believe that to such causes, the varying forms and character of the eruptions in essential fevers are in a great degree attributable. In some seasons the eruption in typhus is absent in very many cases; and moreover, it is sometimes wanting in cases in which the Peyerian glands are extensively diseased. Dr. Elliott, one of the physicians of the Bellevue Hospital, reports an instance in which "Peyer's plates were much enlarged and deeply ulcerated," and in which "there was no eruption, nor any diarrhœa, during the whole progress of the case."* Are not the rose-coloured spots of typhoid fever the primary forms or conditions of the petechiæ or maculæ of typhus? Professor Clark, one of the physicians of the hospital just named, says, that "in the proportion of about one-half of the typhus fever patients, a *rose-coloured* eruption occurs on the body, which frequently in the progress of the fever assumes a petechial appearance.† To elevate the shades of colour, and the varieties of form of the eruption to the rank of diagnostic phenomena, indicative of distinct diseases, when the more striking and important phenomena are unequivocally expressive of an identity of disease, is a refinement which, it appears to us, no clinical observer can regard with favour.

Nor are the diarrhœa and gurgling in the right iliac region worthy of consideration, as signs by which the affection called typhoid fever may be distinguished as a specific disease, or one different from typhus. These phenomena occur in cases in which the general symptoms of the two forms of disease, arising from disturbance of the nervous, vascular, and secretory functions, are the same, and which therefore indicate the affections to be one and the same. Gurgling in the bowels is common to many diseases; and as to diarrhœa it frequently occurs in fevers in which there is no follicular disorder of the intestines; and though it is generally present in dothinenteritis, it is sometimes absent. Dr. Swett, late President of the New York Medical and Surgical Society, so well known for his devotion to pathological studies, in discoursing on the cases of ship fever, treated at the New York Hospital, at a meeting of that society on May 1st, 1847, stated that "in the case in which the ulceration was most extensive, there had been no diarrhœa; in the other case with ulceration less in amount, though still considerable, the diarrhœa had been profuse."‡ Similar remarks are applicable to the meteorism and tenderness of the bowels; they frequently occur in disorders different in their character, and are occasionally wanting in typhus and typhoid fever. With respect to epistaxis and delirium, they are totally destitute of any claim to the character of signs denoting a specific difference between the two forms of disease in question.

But though the rose-coloured spots, the diarrhœa, and gurgling in the bowels, the meteorism, tenderness of the abdomen, epistaxis, and delirium, taken seve-

* Annalist, vol. ii. p. 249; edited by William C. Roberts, M. D., New York.
† Transactions of the Medical Society of the State of New York, vol. vii. p. 59, 1848.
‡ Annalist, vol. i. p. 389.

rally, or any two or three of these phenomena combined, do not enable us to distinguish typhus fever from the typhoid affection of Louis, still, it may be asked, do they not, when collectively present, that is, when grouped together in the same case, indicate these diseases to be essentially different? In regard to this question, it is to be observed, that, in discriminating fevers, the ablest clinical physicians place more reliance upon the uniform constitutional phenomena, as manifested in the morbid conditions of the nervous, vascular, and secretory organs, than upon those phenomena which are local and contingent. The former are esteemed the efficient, and the latter the accessory means of diagnosis. Are not intermittent and remittent fevers known and distinguished by their types and general phenomena, and particularly by the modes in which the phenomena are combined or succeed each other? In these forms of fever there is often inflammation or engorgement of particular organs, and yet, notwithstanding such complications, each of these diseases is readily recognized and distinguished. Even in yellow fever, the course and form of the general symptoms, springing from derangement of the nervous and vascular systems, are vastly more important as indications of the specific nature and distinctive character of the disease, than the symptoms immediately connected with the gastro-intestinal lesions. These latter, it is true, are sometimes valuable subsidiary means of diagnosis; and, indeed, are occasionally essential aids in deciding in doubtful cases; but, aside from the general phenomena, they would scarcely suggest the idea of yellow fever; whereas, the constitutional symptoms are, of themselves, sufficient, especially when the disease is epidemic, to show the true character of the malady. The same remarks, in regard to the symptoms depending on special organic lesions, are applicable to every other essential fever. In the contagious exanthemata it is otherwise. In these, the eruption is, with very few or no exceptions, a constant occurrence, and is therefore regarded as one of their leading diagnostic phenomena.

Now if we examine the phenomena of typhus as described by English writers, and compare them with those of typhoid fever as described by M. Louis and others, are we not warranted in giving to the general symptoms a higher value as diagnostics of the special nature of these diseases, than to those which indicate an affection of the glands of Peyer? Is not typhus distinguished in all cases by the character and train of the general symptoms, rather than by any disturbance of the abdominal organs, indicated by tenderness under pressure, diarrhœa, gurgling in the right iliac region and meteorism? And is not the same true of typhoid fever? That such is the fact, in respect to the latter disease, there can be no question; for Louis and others have recorded cases as typhoid fever in which the symptoms of follicular disease of the bowels were obscure or not conspicuous.

Idiopathic fevers, then, are distinguished by the kind and character of their general symptoms, and by the mode in which these are grouped and successively developed. In comparing fevers with one another, the order of the occurrence, as well as the peculiarity of all the phenomena, should be observed. When this is carefully done, there is generally no difficulty in discriminating particular fevers. All cases of fever are to be considered of the same nature in which the constitutional symptoms occur in the same order, and agree in their general features. The local, contingent, and minor symptoms, as well as the variations in the mode of attack, violence and duration of the morbid phenomena, indicate modifications of the disease, and nothing more. A physician practically versed in the diagnosis of fevers, on visiting the wards of a hospital in which the various species of essential fevers are assembled, will distinguish each particular kind of fever, not by tenderness of the abdomen, gurgling in the bowels, diarrhœa, and epistaxis—for these phenomena may or may not be present in fevers unlike each other—he will found his diagnosis on the type, and general course and peculiarity of the phenomena manifested in the nervous, vascular, and secretory functions. In individual cases, in which the type and characteristic symptoms of a special form of fever are not as fully and clearly developed as is necessary to settle the diagnosis, he will await their occurrence, inquire into the etiology of the disease, and avail himself of the light thrown on the nature of the malady by the occasional or contingent symptoms. Thus, in yellow fever—a disease usually well marked and distinguishable by a train of general symptoms, cases occur in respect to

which a doubt may exist as to their true nature, until the appearance of black vomit, an event in itself of no value as a diagnostic of a specific form of fever, except when it concurs with certain diagnostics presented by the general system.

Now in typhus and the typhoid fever of Louis, the morbid phenomena are so correspondent in the sensorial, vascular and other functions, and are so similarly catenated or related to one another from their accession to their termination, that the attempt to assort and group them, so as to make them express two different diseases, is a labour which, it appears to us, must fail to show any distinction which is found in nature and cognizable by practical minds.

If such be a just view of the subject, in what light are we to regard the phenomena considered by Louis and others, as establishing a specific difference between the two forms of disease in question? To say nothing of the rose-coloured spots, delirium and epistaxis, are not the meteorism, tenderness of the abdomen, gurgling in the intestines and diarrhœa, occurring in fever, simply indicative of abdominal derangement, in the same manner as cough, expectoration, and certain auscultatory signs denote a pulmonary complication, or as injection of the adnata, intolerance of light, headache and delirium, show encephalic disorder? The principal anatomical lesions in typhus are found in the three great cavities; and there are no reasons that would warrant the forming of a special disease of those cases in which abdominal symptoms are prominently developed, which would not equally justify the creation of new diseases of cases in which pneumonic and cerebral symptoms are predominant. If the term *abdominal* typhus, applied by the German physicians to dothinenteritis, be appropriate, it may not be improper to apply the terms *thoracic* and *cerebral* typhus to those varieties of the disease in which the lungs and brain are the organs that chiefly suffer organic changes. These terms, so used, import special complications of typhus, but not distinct diseases.

That every case described by Louis as typhoid fever was genuine typhus is, perhaps, doubtful; but that most of his cases in which he found, after death, follicular ulceration of the bowels were not that disease, he has, we think, failed to show by any diagnostic phenomena. Had no autopsies been made, the cases would have been considered, by every pathologist, as simple modifications of the typhus of England and other countries. In searching for novelties in pathological anatomy, it should be borne in mind that the evidence for and against the theory of the essential nature of fever vastly preponderates on the side of the former; and, consequently, all anatomical lesions are to be considered contingent or secondary. The anatomical alterations in typhus and other kinds of fever sometimes vary so much in different cases, that were one called upon to decide on the nature of the disease in a particular case, by inspection of the body after death, it would frequently be difficult, and sometimes impossible, to say of what *species* of fever the patient died. Now such an embarrassment, in forming a diagnosis, rarely occurs in cases in which the symptoms, during the normal course of the disease, are carefully observed. In the phlegmasiæ proper, a post-mortem diagnosis is, in general, not left in doubt, but is promptly and certainly attained.

Upon the whole, it seems to us, that the ingenious attempts which have been made to establish a specific distinction between typhus and typhoid fever, by an analysis of the *symptoms*, have yielded no other profitable result than a lucid exhibition of the modifications which genuine typhus assumes under different circumstances of temperament, habits and mode of life, climate, &c. In no other light can we regard the able researches on the subject by Louis and numerous other pathologists in Europe and America.

2. *Of the Morbid Anatomy of Typhus and Typhoid Fever.*—As, then, the *vital phenomena*, observed during the progress of the two forms of disease in question, lead to the conclusion that they are not specifically distinct in their nature, it seems that the opinion that they are so, has arisen from the discovery of dothinenteric lesions in one form of the malady and not in the other. The theory which localizes the cause of fever in the stomach and intestines, so fashionable in the last thirty years, is obviously the source to which may be traced the distinction which is made between typhus and typhoid fever. Stated in a brief form, the theory, in relation to these diseases, is explicitly this: a fever with ataxic or adynamic symptoms in which the glands of Peyer and Brunner are tumefied and ulcerated

is typhoid fever; and that a fever attended with similar constitutional phenomena, and in which those glands are not diseased, is not typhoid, but some other species of fever. That Louis employs the fact of the non-existence of dothinenteric lesions in febrile cases, to prove that the disease is not typhoid fever, is shown in his work on yellow fever, in giving the diagnosis of which he specially distinguishes the two diseases anatomically, by the normal condition of the intestinal glands in one of them, and the constant alteration of them in the other.

That there is a great and fundamental error in the doctrine which makes a specific difference between the diseases to which our inquiries relate, may, we think, be shown by adverting to a few of the anatomical facts and general arguments which bear directly on the subject.

If a diseased state of the agminated and isolated glands of the bowels constitute the peculiar and essential *anatomical character* of typhoid fever, then certain other maladies considered by every observer as different in their nature, should be regarded as identical with that disease; for there is abundant evidence to show that in many instances of the disorders referred to, those glands are inflamed, tumefied or ulcerated.

It must here be noticed that by the term *anatomical character* of a disease is meant, according to Louis, a morbid condition of organic lesion which invariably occurs in the same disease, and which, with certain other phenomena, distinguishes the disease from all others. Thus, in speaking of yellow fever, he says: "The red or black matter found in the stomach and intestines, not having been found *in all the cases*, it cannot be considered an *anatomical character* of that disease." But he adds, "it is not so with the alteration of the liver, which was more or less exactly the same *in all the cases*, and which for *that reason* ought to be considered as the *essential* anatomical character of the yellow fever of Gibraltar of 1828."

Now, if we use the term *anatomical character* in the rigorous sense in which it is employed by Louis, are we not bound to consider every fever in which Peyer's glands are diseased or ulcerated as typhoid fever? No special form of lesion of the intestinal glands, analogous to the special form of lesion of the skin in smallpox, is described as distinctive of the typhoid affection, for every morbid condition of them, except perhaps the tuberculous, is recognized in the disease.

The truth is, disease of the glands of Peyer and Brunner is, in none of its forms, in the strict sense of Louis, an anatomical character of any one species of fever. It occurs in disorders unlike in their causes, and dissimilar in their character. It occurs occasionally in the different kinds of *koino-miasmatic* fevers, and also, now and then, in the contagious exanthemata. It occurs especially and most frequently in *idio-miasmatic* or genuine typhus, and in febrile maladies which, in their progress, become adynamic, or, as it is usually and properly said, *typhoid*. It occurs more generally in typhus, in some years, and in some localities and countries than in others; and when it occurs it is an effect or complication, and not the cause of the febrile disturbance of the system.

If these statements be correct, and that they are so, might, we think, be established by abundant testimony, there are no solid reasons for considering the affection of Peyer's glands a feature distinguishing the typhoid fever of Louis from the typhus of England and other countries. We have already shown that these diseases are so similar in their symptoms, that they cannot by these means be rationally characterized as different species. Whatever variety of forms they exhibit in their general or local phenomena, they scarcely ever fail to manifest a unity of type and character; and consequently they should be regarded as the same disease. Indeed, as we have said before, were it not that post-mortem examinations had revealed a lesion of Peyer's glands, there never would have been a question as to their identity.

With all the light which modern pathological anatomy has shed on the nature and complications of fever, and with all the aid afforded by researches directed to the elucidation of the connections between the symptoms of fevers, and the structural alterations which occur in this class of diseases, can it be determined with a degree of certainty, approaching the exactness with which we are able to announce the existence of a pulmonary or cerebral complication, that the glands of Peyer are diseased in a given case of fever? A high degree of probability

that they are affected may be inferred from particular symptoms; but after all, nothing but an autopsy can establish the fact.

That dothinenteritis occurs in genuine typhus is proved by the concurrent testimony of many physicians, who have enjoyed the most extensive opportunities of studying the disease, in all its forms and varieties of complication, and whose learning and talent for observation entitle their opinions to implicit confidence. While, on the one hand, it is shown by their inquiries that the intestinal glands are frequently affected in typhus, it is, on the other, demonstrated that in the form of fever denominated typhoid, the follicular disease of the bowels is sometimes wanting. To cite all the proofs which might be adduced in support of these remarks, would require wider limits than the present occasion affords. The statement of a few facts, bearing on the points in question, will sustain what a greater number could not render more evident. And first, let us advert to the evidence of some European authorities.

In no country is typhus more prevalent than in Ireland. The disease is there seen in all its varieties, symptomatic and anatomical; and it is to the enlightened physicians of that country that we are indebted for much valuable information in relation to the nature of the disease. Dr. Kennedy, in giving an account of the typhus which prevailed in Dublin in 1837–38, says: "The only post-mortem appearance that was at all constant, was congestion of the vessels of the membranes of the brain."—"But if this epidemic typhus was not characterized by any uniform or constant pathological changes, it was very remarkable for the almost total absence of those abdominal lesions which have been regarded by some as the invariable attendants of typhus fever. Indeed, in this respect, this epidemic affords a striking and conclusive refutation of the false and hasty generalizations of the French pathologists on this subject. In this respect, also, it differs altogether from the epidemic fever of 1826, (which the writer had an ample opportunity of investigating while in charge of fever patients, supported at the expense of the government, at the Meath Hospital that year,) in which, in a *large proportion* of the post-mortem examinations made by him, more or less disease of the glands of Peyer was found."* The typhus epidemics here brought into contrast by Dr. Kennedy, happily illustrate a well-known law of epidemics, namely, that the same popular disease varies in its form and anatomical lesions in different years and seasons. There can be no question that the two epidemics of which he speaks were essentially the same in their nature, and the difference in the condition of the intestinal canal in the two epidemics was incidental, certain influences in 1826 operating to produce "in a large proportion" of the cases, "more or less disease of the glands of Peyer;" whereas, in 1837–38, the analogous modifying influences occasioned scarcely any organic changes in the bowels, but chiefly a different complication, "a congestion of the vessels of the membranes of the brain."

Dr. M'Cormac, of Belfast, who evinces in his work on fever great familiarity with the diseases of Ireland, after minutely describing the various changes which take place in the aggregated and solitary follicles of the intestines, remarks: "This exanthem, if we may call it so, does not present the regular phases seen in small-pox; it may exist during the greater portion of the disease, and even after the fever has terminated." And he adds, "after what I have said, I need hardly repeat again, that together with its results, it is only an occasional contingency in fever, and seemingly more frequent on the continent than in this country—from what cause, however, if it be this, I do not pretend to say."

Dr. Stokes, of Dublin, than whom there are few physicians more capable of arriving at correct conclusions on pathological subjects, regards "typhus as an essential fever which affects in an especial manner in different cases, and *during different epidemics*, either the head, the chest, or the abdomen." He alleges that "the ulcerations of the intestines so much insisted upon by the French pathologists, are neither of constant occurrence, nor are they characteristic of the disease; in one epidemic they are found on dissection, much more frequently than in another."†

* Medical Report of the House of Recovery and Fever Hospital, Cork street, Dublin. By G. A. Kennedy, A. M., M. D., Dublin, 1839.

† Medico-Chirurgical Review, No. 81, p. 71.

Dr. Graves, the able colleague of Dr. Stokes at the Meath Hospital, entertains the same view of the nature of typhus.

In accordance with these opinions, are the extensive observations made in England, recorded in the writings of Drs. Hewet, Tweedie, Copland, Southwood Smith, Marshall Hall, and others. All these concur that the glands of Peyer are frequently the seat of anatomical changes in typhus.

Similar investigations in Scotland have established the same facts in regard to the pathological anatomy of the disease in that country. Dr. Davidson, in his Thackeray Prize Essay on typhus fever, gives a table showing the number and kinds of lesions observed in the post-mortem examinations of sixty-three eruptive cases admitted into the Glasgow Fever Hospital, from May 1st to November 1st, 1839, from which it appears that enlargement of Peyer's glands and ulceration of the intestines were present in many cases.

These are but a few of the evidences of the occurrence of dothinenteric lesions in the typhus of Great Britain and Ireland. But it may be said that the pathologists of these countries confound diseases which are specifically different; and that this is owing to their mode of studying the phenomena not being so minute and philosophical as the method pursued by the physicians of France. If the French make distinctions where the English do not, are we to accord to the former superior powers of discrimination? The English, Scotch, and Irish physicians have given evidence of talent and industry in the investigation of febrile pathology not surpassed, we think, by the medical men of any country. They have patiently examined the grounds upon which their continental brethren have drawn a line of distinction between typhus and typhoid fever; and, having done so, they deny that there is any foundation in nature for it. Dr. Davidson, who, it is believed, expresses the general opinion of British physicians, says: "Would it not, therefore, be refining our classification beyond all precedent, to separate typhus and typhoid fever with two species, where it has been shown that the symptoms in both are the same, or very nearly so, that they have nearly the same laws, as far as these have been ascertained; that the severity of the symptoms in both is not in proportion to the lesions of the intestinal follicles; and that the other complications of both are similar, although *various in the same place at different periods*, while the only characteristic in dispute has been acknowledged not a constant, and therefore, not a necessary element for the existence of the disease."*

Such, then, being the opinions of physicians practising in the British Islands, it becomes a question of curious interest, if nothing more, to learn what impressions have been produced on the minds of those who, conversant with the typhoid fever of Paris and other continental cities, have personally compared this disease with the British typhus. Dr. Lombard, of Geneva, so often quoted on this subject, during his visit to England, Scotland, and Ireland in 1836, examined several cases of typhus, two in Dublin, and one in Glasgow, and finding the symptoms similar to those of the typhoid fever of the Continent, with which he was familiar, expected to find after death the usual dothinenteric lesions; but, on examination, to his great astonishment, no such lesions were found. He says, "in the whole course of my experience I have met with nothing which has surprised me more than this occurrence; I had been for years engaged in the study of typhus fever, and for years my almost daily experience in the dead-room led me to associate certain lesions of the alimentary canal with the symptoms of this disease, when suddenly I find myself assailed by a new experience exactly contradictory of my former; nor was my new experience unconfirmed by that of the Glasgow or Dublin physicians." With such facts before him, to the question, "whether the two diseases are different or the same?" he answers: "I cannot allow that they are specifically distinct, and consequently I am almost forced to give up the opinion that the local changes of structure are of paramount importance in causing or producing the symptoms that accompany this type of fever."† Though Dr. Lombard subsequently resumed the opinion that the two diseases are different, it appears to us he did so without sufficient reasons.‡

In the following year, 1837, Dr. Staberóh, of Berlin, made a visit to Great Brit-

* Thackeray Prize Essay, p. 80. Appendix, British and Foreign Review, No. 22.

† Dublin Journal of Med. Science, vol. x. pp. 19, 22, 23. ‡ Ibid., p. 101.

ain and Ireland, and for six months devoted himself to the study of the fevers of those countries. His intimate acquaintance with the typhoid fever of Paris especially qualified him to compare the diseases in question; and, after doing so, he concluded, that though in many cases the British typhus wanted the follicular lesion of the bowels, the disease was the same as the typhoid affection of the continent.*

To the above authorities in favour of the identity of the two forms of disease, we must not omit to add that of M. de Claubry, whose able and elaborate investigations of the subject were published in Paris in 1844. His assemblage of facts, and the inferences he draws from them, seem scarcely to admit of being rationally controverted.

It thus appears that there are many of the more eminent pathologists of Great Britain, Ireland, and other European countries who concur in the opinion that no essential difference exists between typhus and typhoid fever. Their observations, however, establish the fact, that dothinenteritis frequently modifies the character of typhus; and that this complication is more common in some seasons and some countries than in others—a circumstance referable to causes which, though obscure, are clearly adventitious.

The necroscopic researches in this country have afforded no satisfactory evidence of there being a specific difference between the forms of malady under consideration. On the contrary, the facts already spread before the public, as well as those daily accumulating in our hospital registers, when carefully analyzed and compared with the phenomena of the typhus and typhoid epidemics of other countries, show that these diseases are one and the same. Cases presenting the same general features, the same nervous, vascular, eruptive, and other phenomena, and springing from the same efficient cause, are found to differ merely in their complications, one case exhibiting after death various anatomical changes, particularly alterations of the glands of Peyer and Brunner, and others showing no such alterations.

The strongest testimony, as it appears to us, yet adduced on this side of the Atlantic in favour of the opinion of the non-identity of typhus and typhoid fever, is that furnished by Dr. Gerhard of Philadelphia. This gentleman has described, in the *American Journal of the Medical Sciences* for 1837, two epidemics, occurring in that city in different years, one of which he designated typhus, and the other typhoid fever. In speaking of the former (typhus), he says, "In this large number of autopsies, amounting to about fifty, there was but in one case, and that doubtful in its diagnosis, the slightest deviation from the natural appearance of the glands of Peyer." In the epidemic which he denominated typhoid fever, it appears that Peyer's glands were generally affected, and hence he inferred that, notwithstanding the similarity of the general symptoms to those of typhus, the malady was not typhus. Now, if what has been said of the variety of complications which the same epidemic disease assumes in different years, be true, is it not fair to conclude that the differences in the morbid anatomy of the two epidemics described by Dr. Gerhard, were due to incidental causes; and that the two epidemics were the same disease modified in different seasons, as in the instances mentioned by Dr. Kennedy, and adverted to by Drs. Stokes and Davidson?

The post-mortem examinations made at the New York Hospitals, during the last year, might be deemed sufficient, apart from all other testimony, to establish the identity of typhus and typhoid fever. In the cases of ship fever, a pure form of typhus, a disease unquestionably originating in every instance from the same poison, follicular disease of the intestines was found after death in some cases, and not in others. Dr. Stone tells us, in the *New York Annalist*,† that, in four weeks, ending May 12th, 1847, there were admitted into the Bellevue Hospital about four hundred and sixty-six cases, sick of typhus; and he says that "the most constant anatomical lesion which I have found in the examination of about twenty-five of those who have died, is an enlargement and softening of the spleen. Peyer's glands were found more or less diseased in about one-fourth of these cases,

* Dublin Journal of Medical Science, vol. xiii. p. 426.

† Vol. i. p. 383, No. for May 15, 1847.

and the heart more or less softened in a somewhat larger proportion." The same gentleman, in another communication, published in the *New York Journal of Medicine*,* relating to the same fever, gives the following among his other conclusions, drawn from observations of the disease in New York and New England: "That typhus and typhoid fever, so called, are identical." Professor Clark, in illustrating the morbid anatomy of typhus, at a meeting of the New York Pathological Society, Feb. 23, 1848, stated, in reference to a particular hospital case, that "the usual old typhoid lesion affected the intestines with the common appearance of the present epidemic." "This case," he said, "allies the present epidemic with the typhoid fever."† At a meeting of the same society, held March 8, 1848, Dr. Swett made the following interesting statement. He said, "that fever had occurred at the Bloomingdale Lunatic Asylum, carried thither by an insane emigrant, and fifteen persons had been attacked with it. Nine or ten had come to the hospital, and two had been examined post-mortem. In the first there were no lesions of any kind: in the second, there were ulcerations of the small intestines" "Where the ulcers existed, instead of attacking Peyer's glands in the middle, they attacked the edges, extending two or three feet up the intestines, and then disappearing. Some had cicatrized, and some were cicatrizing. Both cases originated from ship fever in a very cleanly and healthy set of men; so that it seems as if the same poison might communicate to one ulceration, and to the other none." Dr. Swett ingenuously added, "that his belief in the non-identity of the diseases lessened daily, and he could not discriminate between cases presenting intestinal lesions (typhoid), and those which did not (typhus)."‡ Dr. Griscom, one of the physicians of the New York Hospital, states, that of ten autopsies of patients dying of ship fever in that Institution, in July, August, and September, 1847, six presented follicular disease of the intestines. Peyer's plates were prominent in four, and ulcerated in two. Facts of this kind are so frequently observed in the New York Hospitals that they have, in a measure, ceased to attract the attention of many physicians once deeply interested in their investigation, in reference to the question of the identity of typhus and typhoid fever.

To the same conclusion tend the inquiries, relating to this subject, in other quarters of our country. A writer in the *American Journal of the Medical Sciences*,§ in speaking, it is presumed, of the ship fever in Philadelphia, says: "We have lately seen a great number of cases of fever in recently arrived Irish emigrants—the majority of the cases were of well-marked typhus fever; a few were of equally well-marked typhoid fever; while, in a third class of cases, the characteristics of these two fevers were so completely blended that it was very difficult to determine which of the two predominated." And he adds, "here, then, we have persons who have been exposed to precisely the same morbific causes, attacked with fever of a similar type, bearing the characters in some of the typhoid fever, in others of the typhus, and in others again a union, as it were, of the characteristics of both. This fact would seem to prove that the typhoid is a mere form or variety of the typhus fever." He also remarks, that "in the present state of our knowledge on this subject, it is, we conceive, much safer to consider the typhoid as one of the forms of typhus fever."

In view of the facts which have been stated, it seems to the committee that no reasonable doubt can remain that typhus and typhoid fever are identical. Were medical men united in this conclusion, might we not hope, that with undivided attention, and a union of effort, more rapid advances would be made in determining the causes of the morbid condition of the Peyerian glands and other organs which occur in some cases of typhus and not in others? On this subject, we would, in conclusion, remark, that it appears to us, that the deposit of typhus matter, so called, occurs not only in the intestinal follicles and mesenteric glands, but also in and beneath the mucous membranes, in the lungs, spleen, and probably in the kidneys; that in some cases this form of epigenesis shows itself mostly, if not exclusively, in the intestines, in others in a different part, and in others again in various tissues; that in some instances it is not discoverable in any organ; that

* Vol. x. p. 176, No. for March, 1848.
† Annalist, vol. ii. p. 249.
‡ Ibid., vol. ii. p. 265, No. for April 15, 1848.
§ No. xxix. p. 202, January, 1848.

in the typhus of some seasons and countries it is generally present in the intestines, and in others, absent in many or a large majority of cases.—*Trans. of Am. Med. Association*, vol. i.

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Compression in the treatment of Aneurism.—The Committee of Surgery of the American Medical Association, in their highly interesting report made in May last, stated that they were cognizant of but five cases of aneurism in the lower extremities in which the treatment by pressure had been employed in this country. These cases were treated by Drs. Buck, Rodgers and Watson of New York, Knight of New Haven, and Mütter of Philadelphia.

"The first case was one of femoral aneurism, in which pressure was fairly tried and did not succeed, and it became necessary at last to resort to the operation by ligature.

"The instance which occurred to Dr. Rodgers was that of a negro seaman, aged 47, who, two months before, observed a swelling in the popliteal region, which arose after a fall. The tumour was of the size of a duck's egg, and the symptoms of aneurism were well marked. He entered the New York Hospital, and on the 15th of January, 1847, pressure was made upon the artery near the groin by means of an arterial compressor. This was continued till the 12th of February, but it being found impossible to effect the desired object with it, Dr. Rodgers substituted another, consisting essentially of a metallic plate placed upon the inner side of the thigh over the vessel, having three holes at short intervals through which screws passed, each having at one of their extremities a firm pad, and at the other a projection to which a key was adapted, by means of which pressure could be made upon the femoral artery at the different points. This metallic plate was secured over the artery by means of broad straps attached to a sliding plate of steel, secured in a metallic bar, applied longitudinally to the back of the limb.

"Soon after the adjustment of this instrument, it was ascertained that the patient loosened the screw in the absence of his attendant. He was now watched night and day for three days, by the end of which time all pulsation in the tumour was entirely arrested. The swelling gradually subsided to half its original size. The only inconvenience experienced by the patient was a numbness of the limb, upon the first removal of the instrument, but this soon left him, and he was discharged cured on the 13th of April.

"The case of Dr. Watson was one of femoral aneurism, treated also at the New York Hospital. The subject of it was an intemperate Irish woman, aged 38. The tumour, which was hard and painful to the touch, had existed for a month, and extended from the upper and inner third of the thigh to within a finger's breadth of the internal condyle of the femur, and at the point of its greatest circumference, reached from the inner border of the rectus muscle to the middle of the outer side of the thigh.

"At midday, on the 23d of September, 1847, pressure was made by means of two pads secured to circular straps over the artery, with counter-compresses on the outer side of the thigh, the pressure produced being regulated by a screw which acted directly upon the pads over the vessel. The first compress was fastened over the artery just as it emerges from beneath Poupart's ligament, the second, a short distance below it, and both were so arranged as partially to control the circulation in the tumour, the pressure being regulated by alternately tightening one compress and slackening the other, in order to prevent abrasion of the integument. On the 24th the patient was restless; on the 25th she complained greatly of cramp and pain in the leg, which was much swollen, to relieve which a roller was applied and the limb elevated on a pillow.

"By the 26th all pulsation had left the tumour. The upper compress was now removed—sixty-eight hours having elapsed from its first application, and very slight pressure was kept up by means of the lower one. No return of pulsation followed the removal of the compress, and in an an hour afterwards the lower pad was also taken away. The skin beneath the upper compress had become somewhat abraded by the pressure, which required the application of a poultice, and subsequently simple dressings for a few days.

"On the 28th no pulsation could be detected in the tumour, or in the femoral artery below the point, upon which the upper pad had rested.

"By the 28th of October the tumour had much diminished in size, and become softer.

"On the 12th of November, nearly two months subsequent to the commencement of the treatment, she left the hospital well, the tumour still gradually becoming smaller. There was no pulsation to be detected in the anterior or posterior tibial arteries, or at any point below the giving off of the profunda, and the femoral artery itself below that point was felt like a solid cord beneath the integument.

"The case furnished by Dr. MUTTER, was that of a book-keeper, aged 41, whose general health was feeble, and who, six weeks previous to the 24th of September, 1847, had been seized with stiffness in the right ham, which was soon followed by a pulsating tumour of the size of a turkey's egg. After a few days' rest in the horizontal position, his treatment was commenced by applying a roller to the limb in order to prevent swelling, and the application of one of Charrière's compressors, with a small oval pad over the femoral vessel where it passes down to become popliteal, and another similar compressor with a larger pad over the artery at the upper third of the thigh. The limb was then placed upon an inclined plane. After remaining in this position for twelve hours, the lower compressor was tightened until all pulsation ceased in the tumour. The pain produced by this procedure was severe, and could only be borne at first for half an hour. When it became insupportable, the upper compressor was screwed down, and the pressure from the lower one removed. The patient supported the pressure above for two hours without much difficulty; it then became annoying, and in order to relieve the suffering, the lower compressor was again tightened.

"By thus alternating the points to which it was applied, the necessary amount of pressure was kept up without excoriation, or any other injurious consequence resulting, and from the peculiar construction of the instruments, and the previous application of the roller, the swelling of the limb was trifling. During the treatment, the diet of the patient was restricted, and digitalis was administered to him.

"By the 12th day the tumour was reduced to about half its original size; had become solid, and was free from pulsation. Notwithstanding these circumstances, Dr. Mutter did not consider it safe to allow his patient to move about, or even to relax the treatment, but continued to pursue the same course, with slight modifications, for six weeks longer. At the expiration of this period, the tumour had nearly disappeared, the collateral circulation was fully established, and the disease radically cured."

Dr. Knight's case we have given in full in our preceding No. p. 255.

To these cases a sixth is now to be added successfully treated by Dr. A. E. HOSACK of New York, and the details of which we take from the *N. Y. Journ. Med.* for July last:

The subject of the case was a coloured man aged between fifty and sixty, in whom Dr. H. tied the femoral artery at the lower part of the upper third of the thigh for popliteal aneurism, about the size of a small goose-egg. Upon securing the artery in the ligature, all pulsation in the tumour ceased; the wound being dressed in the ordinary way, healed kindly in the usual time, casting off the ligature on the 26th day; after which the swelling continuing gradually to decline, left the patient to all appearance perfectly well, with the exception of a slight halt in his gait, which entirely disappeared after a few weeks. About the middle of the following August he returned to Dr. H. with the tumour of nearly the size it was at the time of the operation, but it had not the same elasticity, and was more solid to the feel. Pulsation was distinctly to be perceived in the tumour, and could be detected in the femoral artery quite up to the point at which the ligature had been applied, as well as in the tibial branches, but with diminished force. Under these circumstances, Dr. H. determined to make trial of compression. Preparatory to the application of the instrument the patient was directed to remain quietly in bed for three or four days, which being complied with, the instrument was adjusted, and pressure exerted upon the femoral artery, so as to arrest completely all pulsation in the tumour: after an hour or more, it became necessary, in consequence of pain produced by pressure, to shift the pad an inch or more from the point just compressed, and so changed from time to time, as circumstances required; but having one plate or pad instead of three, (the other two

being an addition of Dr. Rodgers, which certainly is an improvement,) Dr. H. was compelled to make compression upon the artery as it passes over the pubis, while changing the position of the pad. The instrument was thus continued until after the fifth day, when finding no pulsation in the tumour, it was removed. After the lapse of a fortnight or more, a slight thrill was to be detected in the aneurismal sac, when the instrument was re-applied for thirty-six hours longer, varying the pressure on the artery as circumstances required. Pulsation or thrill being no longer discoverable in the tumour, which had now become more solid, compression was taken off; since which time the patient has been able to take exercise, and attend to his usual occupation, being perfectly restored to health.

The instrument employed by Dr. H., which is similar in principle to one described by Mr. Blizard, (*London Med. and Phys. Journ.*, vol. iii.,) consists of a quadrangular rod of iron, passing up on the outside of the thigh to its full length, of sufficient strength to sustain the force required. At its upper extremity it is connected with a broad concave pad by a neck of iron, about an inch long, coming off at right angles with it. The pad is to rest upon the trochanter major, and is to be retained in its place by a strap passing round the pelvis. The lower extremity of the rod has a similar neck of iron, but which is two inches long and slides upon the rod, so as to accommodate the instrument to the various lengths of limbs; the pad connected with it is also broad and concave, that it may the better repose upon the outer condyle of the femur, and is retained in its place by a strap passing round the knee. Two plates of iron, six or seven inches broad and eight inches long, connected together, are threaded in the centre by the rod so as to slide up and down; to the upper and lower edge and on the outer side, knobs are attached for the fastening of straps to be connected with three plate of iron of sufficient thickness, about two inches and a half broad and six inches long. These plates have knobs at the upper and lower extremity on the outside, for straps to be attached connecting them with the outer plate. These three plates are pierced in the centre for a screw, which is to have connected with it a pad similar to the common tourniquet pad, only larger. The straps connecting the plates can be shortened or lengthened at pleasure, so as to bring the pad of each to bear directly upon the femoral artery in its winding around the bone.

"By this arrangement," says Dr. H., "it will be perceived that I have successfully avoided compressing the collateral branches of arteries by making the *point d'appui* between the trochanter major and the outer condyle of the femur, while the resistance offered is alone from the inner side of the thigh bone, with the femoral artery intervening."

Ovarium successfully Extirpated. By H. Miller, M. D., of Louisville, Kentucky. (*West. Journ. Med. and Surg.*, July 1848.) The subject of this case was 37 years of age, and she had first observed the tumour a few months previously, since when it had rapidly increased in size. On examination, Dr. Miller discovered a large tumour in the abdominal cavity, extending considerably above the umbilicus, and mostly occupying the right side, but stretching across the linea alba. Its shape was irregularly globular, and its consistency variable, being, at some points, much firmer than at others,—and in portions of it, fluctuation could be distinguished. Pressure upon it, even rude handling, gave no pain, and it appeared to be, in some degree, movable in the cavity.

Examined *per vaginam*, the tumour could be felt within the pelvis, and the uterus was found in its normal condition.

Doctor M. explained to the patient the nature of the case, and the risks of an operation, but she boldly determined to risk the latter to get rid of her burden. She consented, however, to delay until the following spring, when she again applied for relief. In consultation with Prof. Gross, Dr. T. L. Caldwell and Bayless, the operation was deemed advisable, and accordingly it was performed on the 6th of April, 1848, with the assistance of Prof. Gross, Dr. Bayless, Colescott, W. B. Caldwell, and T. G. Richardson. The patient being placed upon the table, on her back, her feet resting upon a chair, and the chloroform having been administered, an incision was made through the integuments, over the linea alba, from the umbilicus to the pubes. The fasciæ and peritoneum were then divided, by several strokes of the scalpel, at the upper part of the incision, and a finger introduced to

guide the probe-pointed bistoury, with which an incision was made through these tissues corresponding to that of the integuments. The tumour was now brought to view, and found adherent, though not very firmly, to the omentum and parietes of the abdomen. To break up these adhesions, Dr. M. passed his hand into the abdominal cavity and around the tumour, and had no difficulty in accomplishing the object. It was soon ascertained that the tumour was too large to be pushed through the opening that had been made, but rather than extend this, he punctured two of the cysts, and discharged a quantity of fluid, resembling that which had been drawn off by tapping, a week previously,—the quantity could not be estimated, as it was suffered to run upon the table, whence it flowed across the room. By getting his hand posterior to it, Dr. M. now drew the tumour through the incision, and supported it while Professor Gross secured its pedicle, by a strong ligature, passed through the broad ligament, and tied round the Fallopian tube and ligament of the ovary, and then severed its connections by cutting across the broad ligament near the inferior part of the diseased ovary. The vessels of the outer extremity of the broad ligament bleeding considerably, these were secured by another ligature which included the whole of its margin.

The tumour being removed, the ovarian fluid which had been effused, in considerable quantity, into the abdominal cavity, and likewise the blood, were carefully sponged out, and the incision was closed, as usual, by the interrupted suture, adhesive strips, compresses, and bandage, the ligatures having been brought out at the inferior part of the incision. The operation was commenced at 1 o'clock, P. M., and the patient was put to bed in less than an hour, having borne it remarkably well; in fact, she felt, as she declared, very little pain, being under the influence of the chloroform.

Nothing very remarkable occurred during the convalescence; the sutures were cut out on the 13th day; on the 19th one of the ligatures yielded to gentle traction; "but the other, although gently pulled at every dressing, did not yield until the 7th of May (the 31st day), at which time the wound was firmly closed, except the small opening through which the ligatures were brought out.

The tumour, notwithstanding the tapping and the puncture of two of its cysts, at the time of the operation, weighed nine and a quarter pounds. It is composed of many cysts, of various sizes, having strong, thick walls, with smooth, polished linings, and filled, as many of them as were opened for inspection, with the same ropy, white fluid, as that discharged by the trocar.

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Case of Pseudo-Membranous Laryngitis, in which the operation of Tracheotomy, performed at an advanced stage of the disease, was followed by complete recovery. By C. D. Meigs, M. D.—A child four years of age becoming affected with difficult and noisy respiration, was placed under the care of a homœopathic practitioner; the parents having lost already a child from croup, recognized in this the same symptoms as were observed in the former case, and suggested to the medical attendant, that the child was labouring under that disease, but this he declared was not the case, but rather thought that the attack would turn out to be one of measles. The child, however, grew worse and worse—no eruption appeared upon the skin, and at the end of two weeks, the respiration having become increased in difficulty and attended with a distinct croupy sound, while the voice of the child was nearly extinct, the parents became alarmed and sent for Dr. Meigs. His son, Dr. J. F. Meigs, immediately saw the patient, and found it in an advanced stage of genuine membranous croup, attended with symptoms of the most violent character; an extensive deposition of membranous matter appeared to have taken place, and the case was looked upon as almost hopeless—with the view, however, of affording, if possible, some relief to the extreme difficulty of breathing, the doctor directed the application of five or six leeches to the throat on each side of the trachea. Dr. C. D. Meigs now saw the child, and considered it to be in the most imminent danger. The croupal symptoms were intense. Upon auscultation, not the slightest respiratory murmur could be detected in any part of the chest, giving the idea of an individual labouring under complete hepatization of both lungs. The air passed into the lungs with the greatest difficulty, the respiratory effort being prolonged to an extent beyond what the doctor recollects to have ever before witnessed. The child was extremely restless, its head was thrown back upon the spine, and every moment strangulation seemed imminent. A half ounce of

powdered alum was directed, and one drachm of it given to the child at intervals of twenty minutes, until emesis was produced, which did not occur until after the fourth dose. This was rather an uncommon occurrence, vomiting being generally produced by a single dose of the alum; it evidently indicated a torpid state of the nervous mass, the result of the great change produced in the blood, in consequence of the imperfect performance of the respiratory function. No nausea or prostration followed the action of the emetic.

Early the next morning found the child labouring under the most distressing difficulty of respiration; the surface, and particularly, the face, lips, and tongue, were of a blue colour, and nearly all the symptoms of a state of asphyxia were present. Dr. M. considered that death was inevitable, but still, the operation of tracheotomy, though a forlorn hope, presented itself as the only possible means of relief. This was stated to the parents, who consented that it should be tried; accordingly, at eleven o'clock, the operation was performed by Dr. Pancoast. After laying bare the trachea, he divided the second, third, and fourth cartilaginous rings; immediately upon opening the trachea, a discharge took place of mucus, mixed with blood and portions of plastic lymph. In forty seconds, the child breathed with great freedom. Instead of inserting a tube in the usual manner, through the opening into the trachea, Dr. Pancoast secured the open state of this, by cutting from the trachea an elliptical portion of cartilage, thus leaving an oval opening into the tube somewhat larger than that of the two nostrils; while the edges of the incision through the soft parts were kept asunder by a leaden wire, which passing around the neck had the hooked ends of its two free extremities inserted on each side of the wound. The next day the child was up and running about. In a few days, the edges of the incision in the neck were brought together, the wound rapidly healed, and the child, within a surprisingly short period, recovered perfectly without a single disagreeable symptom occurring.—*Summary of Trans. of Philad. Coll. of Phys.*, vol. ii. No. 5.

Case of Membranous Croup of a severe character, and attended with all the symptoms of approaching death, which recovered without an operation for Tracheotomy. By Isaac Parrish, M. D.—The patient was a child of eighteen months old, which was attacked with what was supposed to be an ordinary catarrh, attended with a harsh dry cough. Simple domestic remedies had been administered for several days without effect, before the doctor was sent for.

When the patient was seen by him, the cough was "croupy," and the breathing obstructed to an alarming extent. On looking into the fauces, the whole back part of the throat was found lined with a thick, tenacious secretion. An emetic of two grs. of turpeth mineral was immediately administered, which operated promptly, but without relief. Calomel, grs. v., was administered, to be followed by castor oil in a few hours. After the operation of the purgative, there was still no decided relief: the turpeth mineral emetic was continued regularly every four hours, and the calomel in small doses every two hours, for several days; but the disease steadily progressed; no discharge of membrane having been induced: the breathing became more distressing, and finally, the child was unable to cry; the cough was dry and less developed, and the bronchial tubes appeared to be rapidly filling up. At this stage of the complaint, injections of assafetida and laudanum were given every four hours, solely with a view of assuaging the sufferings of the child, and all other medicines were suspended. The full effect of the opium was induced, and the jactitation and restlessness diminished, though the breathing continued as bad as ever. The child lay upon the pillow with the head thrown back, and was several times supposed to be dying, from the violence of the paroxysms of dyspnœa. The doctor left late in the evening, with directions to continue the anodyne, expecting to find his patient dead in the morning. On the morning visit, he was surprised to find that the paroxysms of extreme difficulty of breathing had been less frequent, and that the child had slept with comparative comfort, though the respiration was still exceedingly laborious. It was found that a discharge of thick yellow mucus had begun to issue from the nostrils during the night, and on examining the throat, it was evident that the membrane lining the fauces was loosening. The bowels had also been freely moved with copious yellow dejections.

This state of things afforded encouragement to resume the use of turpeth mine-

ral, which acted promptly, bringing away large quantities of thick, yellow mucus, to the great relief of the infant, who, from this time, went on improving, and recovered rapidly.—*Ibid.*

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Case of Parturition occurring in a Female labouring under Stricture of the Vagina. By C. D. Meigs, M. D.—On the 11th of April, 1845, the patient was delivered of her second child, and soon after was seized with fever, attended with some peculiar symptoms, which were found to result from a retroversion of the uterus, that had occurred before the uterus had become entirely reduced to its normal size and condition after parturition. During the remainder of 1845, and the whole of the ensuing year, the patient remained in tolerable health; early in 1847, she began to complain of pelvic pain, attended with some discharge from the vagina. She at first declined submitting to an examination to enable Dr. M. to ascertain the condition of the uterus and vagina. Her symptoms, however, increasing, she permitted finally the examination to be made: the neck of the uterus was found to be in a condition which induced Dr. M. to suppose, at first, that it was carcinomatous, but on resorting to the speculum, he ascertained that the neck of the uterus was the seat of an extensive ulceration, which did not appear to be of a malignant character. The superficies of the ulcer were equal to that of the fingers of one hand; there was considerable thickening of the parts affected, and portions of the surface were removable in the form of scales. It was treated by the nitrate of silver, but without any benefit resulting; the acid solution of the nitrate of mercury was substituted, and under its use the ulcer healed rapidly, and the general health of the patient soon improved, and became pretty well re-established by the time the ulcer was entirely cicatrized. As the ulcer healed, however, a very considerable contraction of the upper portion of the vagina took place, by which its cavity was reduced in diameter to that of an ordinary silver pencil. By the first of January of the present year, the lady became pregnant, and about the 10th of July labour pains were experienced. In an examination, to determine the condition of the vagina and os uteri, it was with the greatest difficulty Dr. M. succeeded in introducing his index finger through the stricture. Opiates, rest, &c., were resorted to in order to keep off the labour. On the 20th of the month the patient had very severe pains; the membranes, which were uncommonly tough, were gradually protruded beyond the vagina. All the means calculated to produce a relaxation of the vagina were resorted to: sulphate of morphia was administered by the mouth; the patient was immersed in a warm bath; mucilaginous fluids were injected into the vagina; and the strictured portion freely anointed with an ointment containing extract of belladonna. The vagina was finally dilated by the advancing head, and on the morning of the 21st, the child was born without instrumental assistance.—*Ibid.*

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Spontaneous Evolution of the Fœtus. By N. W. Cole, M. D., of Burlington, N. J.—On the evening of the 10th of Oct., I received a message from my friend Dr. Haines, to visit with him a female in labour of her eleventh child, to whom he had been called in the afternoon, and to bring with me my instruments. The doctor informed me that upon his arrival he found one child born, and that another was presenting, with the shoulder and its right arm protruding. He stated also that he had made several unsuccessful attempts to turn. Upon examination I found everything as above stated. The labour pains had entirely ceased, from the time of the birth of the first child. Its waters evacuated, and the uterus was closely and rigidly contracted around its body, so much so that, after repeated efforts, I was obliged to abandon all idea of turning without using more force than would be justifiable.

While preparing the necessary instruments for taking the child away, (it was dead beyond all doubt—there being no pulsation from the time of my arrival,) the mother's pains returned; and Dr. Haines, who was sitting with her, observed the child to be lower down. I immediately made an examination, and found that some change was taking place. Its body seemed to descend, and I distinctly felt its shoulder ascend. In less than five minutes from the return of the pains, it had made a complete somerset. The feet and breech came down, and the head followed without any difficulty. It was healthy, and of the average size.—*New Jersey Med. Reporter*, Jan., 1848.

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Graduates of Jefferson Medical College of Philadelphia, March, 1848. —At a Public Commencement held on the 29th of March, 1848, the Degree of Doctor of Medicine was conferred on the following gentlemen by the Rev. Ezra Stiles Ely, D. D., President pro tempore in the absence of the Rev. Ashbel Green, D. D., LL. D., President of the Institution; after which a Charge to the Graduates was delivered by Professor Pancoast.

NAME.	STATE.	SUBJECT OF THESIS.
Alexander, Gerard	Kentucky,	Syphilis.
Anderson, John B.	Virginia,	Hypertrophy of the Heart.
Arnold, Edmund S. F.	England,	Pneumothorax.
Ayer, Francis B.	New Hampshire.	Typhoid Fever.
Baer, Caleb D.	Maryland,	Hydrocele.
Bainbridge, Eusebius C.	Kentucky,	Prolapsus Uteri.
Banks, William	Alabama,	Cold Stage of Intermittent Fever.
Baxley, Jabez B.	South Carolina,	Typhus Fever.
Bennett, Trumbull L.	New York,	Phthisis Pulmonalis.
Benson, Wirt F.	Tennessee,	Physiology of Respiration.
Bibb, William E.	Virginia,	Opium.
Birch, David	Ireland,	Nutriment of Fœtus.
Birdsell, Sylvester	Pennsylvania,	Cardiac Dropsy.
Blain, Hamilton L.	Virginia,	Dysentery.
Bolling, Lenæus	Virginia,	Acute Gastritis.
Bolton, James N.	Georgia,	Typhoid Fever.
Bourn, Richard W.	Missouri,	Datura Stramonium.
Bournonville, A., M.D.	Pennsylvania,	(Ad eundem.)
Bowen, James W.	Maryland,	Bilious Remittent Fever.
Brodnax, Robert	North Carolina,	Circulation of the Blood.
Brookbank, John W.	Iowa,	Intermittent Fever.
Brown, Henry James, M.D.	Pennsylvania,	Tetanus.
Brass, Andrew J.	Pennsylvania,	Eclampsia Infantum.
Brown, John T.	Pennsylvania,	Acute Dysentery.
Bruner, William H.	Pennsylvania,	Glands of Brunner.
Buck, Jonathan	Mississippi,	Fever.
Cable, Josiah C.	Ohio,	Physical Diagnosis.
Cahall, Thomas	Delaware,	Epidemic Erysipelas as it occurred at Dover, Del., in 1847.
Cameron, J. Walton	Virginia,	Pertussis.
Carr, William W.	Georgia,	Pneumonia.
Chambers, John M. Duncan,	Pennsylvania,	Typhoid Fever.
Chancellor, James E.	Virginia,	Digestion.
Churchman, Vincent T.	Virginia,	Differential Diagnosis of Typhus and Typhoid Fever.
Clark, George W.	Virginia,	Peritonitis.
Clements, L. Morgan	Alabama,	Acute Pleuritis.
Collet, Mark Wilkes	Pennsylvania,	Changes of the Blood in Disease.
Connalley, Reps	Virginia,	Acute Hydrocephalus.
Crouse, George Jackson	Pennsylvania,	Febris Remittens.
Davidson, Charles Edward	Virginia,	Puerperal Fever.
Davis, John, Jr.	Virginia,	Hematology.
Dennis, William H.	Virginia,	Cholera Infantum.
Deupree, William J.	Mississippi,	Congestive Fever.
Dice, Reuben B.	Virginia,	Acute Endo-gastritis.
Dixon, Lucius	Virginia,	Diseases of the Urinary Bladder.
Dodd, Robert J., Jr.	Pennsylvania,	Process of Digestion.
Doxey, John L.	Mississippi,	Gonorrhœa.
Drayton, Edward F.	Pennsylvania,	Curvatures of the Spine.
Fitzgerald, Edmund	Georgia,	Pathology of Inflammation.
Foard, Andrew Jackson	Georgia,	Rheumatism.
Folwell, Joseph N.	Kentucky,	Acute Dysentery.
Fort, Moses T.	Georgia,	Moral prophylaxis and treatment of diseases.
Frick, William S.	Pennsylvania,	Pharmaceutical Inconsistencies.
Gamble, George M.	Pennsylvania,	Conception.
Garnett, James H.	Virginia,	Differential Diagnosis of Typhus and Typhoid Fever.
Gauthreaux, Joseph Justin	Louisiana,	Typhus Fever.

NAME.	STATE.	SUBJECT OF THESIS.
Gilbert, Julius Cæsar	Georgia,	Yellow Fever.
Glass, Samuel	Ohio,	Pneumonia.
Green, James S.	North Carolina,	Constipation and its effects.
Gresham, Sterling A.	Georgia,	Cholera Infantum.
Guild, La Fayette	Alabama,	Healing of Wounds.
Gwyn, James D.	North Carolina,	Vis Medicatrix Naturæ.
Habersham, Stephen Elliott	South Carolina,	Inguinal Hernia.
Halley, Samuel H.	Virginia,	Scarlatina.
Hamilton, James	Pennsylvania,	Pathology of the Human Solids.
Harden, Robert Raymond	Georgia,	Acute Gastritis.
Harper, John P.	Missouri,	Acute Peritonitis.
Harris, Marcus A.	Virginia,	Diagnosis.
Hayes, Pliny H.	New York,	Physiological Anatomy of the Skin.
Henderson, William J.	Pennsylvania,	Hepatitis.
Herr, Henry F.	Pennsylvania,	Fecundation.
Hill, Alonzo A. F.	Georgia,	Hereditary Transmission.
Hillsman, William H.	Virginia,	Pneumonia.
Hobson, Samuel A.	Virginia,	Inguinal and Femoral Hernia.
Hore, Walter	Virginia,	Dysentery.
Hottenstein, Cyrus D.	Pennsylvania,	Amenorrhœa.
Houtz, Abraham	Ohio,	Typhoid Fever.
Howard, Nelson W.	New York,	Quackery.
Howell, George H.	Pennsylvania,	Pneumonia.
Humphreys, Benjamin W.	Tennessee,	Natural Indications.
Hunter, William R.	Maine,	Sulphuric Ether.
Isbell, Abner C.	Virginia,	Acute Articular Rheumatism.
Jackson, Samuel	Pennsylvania,	Opium.
Jenkins, Paul F.	South Carolina,	Gastritis.
Jenkins, Robert C.	Virginia,	Scarlatina.
Jessup, John J.	New Jersey,	The Tampon.
Jeter, John W.	Virginia,	Hysteria.
Jones, Daniel W.	Maryland,	Cutaneous System.
Jones, Robert Lewis	Mississippi,	Animal Calorification.
Jordan, Watson P.	Virginia,	Bilious Remittent Fever.
Kendrick, Oscar C.	Ohio,	Action of Ergot on the Vitality of the Blood.
Knapp, Franklin A.	New York,	Menstruation.
Koontz, George H. H.	Virginia,	Tic Douloureux.
Ladd, Horace	Pennsylvania,	Acute Pneumonia.
Leake, Virginius	Tennessee,	Vis Medicatrix Naturæ.
Leatherbury, Edward R.	Virginia,	Pneumonia.
Levis, Richard J.	Pennsylvania,	Influence of the Mind on Disease.
Lindsey, Hugh N.	Mississippi,	Chylosis.
Linn, William H.	New Jersey,	Intermittent Fever.
Long, John Wesley	North Carolina,	Menstruation.
Long, Reuben K.	Virginia,	Asphyxia.
Lothrop, James E.	New Hampshire,	Pneumonia.
Luther, Martin	Pennsylvania,	Acute Peritonitis.
M'Clure, Henry	Pennsylvania,	Intermittent Fever.
M'Ilvaine, Robert H.	North Carolina,	Qualifications of a Physician.
M'Nail, Thomas A.	Tennessee,	Acute Hepatitis.
Mackenzie, Thomas G.	Virginia,	Use of Sulphuric Ether.
Marsden, John H.	Pennsylvania,	Management of Lying-in Women.
Marshall, Theophilus O.	Virginia,	Cathartics and their Therapeutical Effects.
Mason, Edmunds	Alabama,	Typhoid, contrasted with Typhus Fever.
Merinar, William H.	Mississippi,	Yellow Fever.
Moore, William I.	New Jersey,	Iodine.
Moss, George W.	Missouri,	Remittent Fever of Northern Missouri.
Moultrie, Alonzo C.	Georgia,	Delirium Tremens.
Murphy, Cornelius T.	North Carolina,	Rubeola.
Murphy, John A.	Pennsylvania,	Peritonitis.
Nash, John W.	Virginia,	Asthma.
Neblett, Sterling, Jr.	Virginia,	Acute and Chronic Peritonitis.
Neff, Peter D.	Pennsylvania,	Asphyxia.
Nicholas, John Thomas	South Wales,	Lithuria.
O'Donnell, William	Pennsylvania,	Abortion.
Oldham, Robert H.	Tennessee,	Typhus Fever.
Osborne, Edward A.	New Jersey,	Typhoid Fever.
Owen, Edward	Pennsylvania,	Typhoid Fever.
Palmer, Charles	New Hampshire,	Apoplexy.

NAME.	STATE.	SUBJECT OF THESIS.
Parker, Edward H.	Massachusetts,	Diabetes Mellitus.
Patterson, Theophilus	New Jersey,	Dyspepsia.
Peters, Samuel Adams	Missouri,	Amenorrhœa.
Pettus, Luther C.	Virginia,	Chlorosis.
Phillips, Thomas A.	Mississippi,	Medical Empiricism.
Philbrick, Samuel R.	Massachusetts,	Principles of Diagnosis.
Preston, Alexander R., M.D.	Virginia,	(Ad eundem.)
Prince, William E.	Virginia,	Typhoid Fever.
Puryear, Richard R.	Virginia,	Carbonic Acid.
Ramsay, G. Randolph	Georgia,	Dyspepsia.
Ramsay, James Graham	North Carolina,	Congestive Fever.
Rand, B. Howard	Pennsylvania,	Animal Charcoal as an Antidote.
Reilly, Paul Jones	Missouri,	Duties of the Accoucheur.
Richardson, William L.	Pennsylvania,	Scarlet Fever.
Robb, John P.	Virginia,	Dysentery.
Robertson, Edwin J.	Virginia,	Therapeutical Agency of Sulphate of Quinia.
Robson, George T.	Virginia,	Remittent Fever.
Rogers, William Egbert	Tennessee,	Ammonia.
Rooke, Levi	Pennsylvania,	Phrenology.
Sample, John	Pennsylvania,	Acute Gastritis.
Scott, Samuel	Pennsylvania,	Pathology of Scarlatina.
Seltzer, John Horace	Pennsylvania,	Cynanche Trachealis.
Service, Lecky M.	Pennsylvania,	Adaptation of the Hand to the Arts and Sciences.
Smith, Elliott Iverson	Georgia,	Emansio Mensium.
Sutton, James L.	Pennsylvania,	Dropsy.
Sutton, Lewis	Pennsylvania,	Cynanche Trachealis.
Taylor, George T.	New Jersey,	Scarlatina.
Taylor, James M.	Pennsylvania,	Continued Fever.
Taylor, Leonidas C.	North Carolina,	Diagnosis of Pregnancy.
Terhune, Archibald A.	Georgia,	Moving Powers of the Blood.
Tharp, Jonathan	Delaware,	Pneumonia.
Tharp, William H.	Tennessee,	Intermittent Fever.
Thomas, John R.	Pennsylvania,	Pneumonia.
Thornton, Wm. P., M.D.	Mississippi,	(Ad eundem.)
Timberlake, Philip	Virginia,	Reproduction.
Tobias, John F.	Pennsylvania,	Acute Peritonitis.
Todd, Alexander H.	Maryland,	Typhus Fever.
Toombs, Robert E.	Georgia,	Gastritis.
Turner, James	Pennsylvania,	Acute Hepatitis.
Urquhart, Thomas H.	Virginia,	Acute Dysentery.
Vaughan, Thomas B.	Alabama,	Colica Pictonum.
Wallace, Robert B.	Alabama,	Endo-gastritis.
Walsh, William F.	Tennessee,	Erysipelas.
Walton, Lewis I.	Virginia,	Carbonic Acid Gas.
Welch, William A.	Alabama,	Peripneumony.
Whitaker, Benjamin F.	North Carolina,	Blood-letting.
White, G. Jefferson	Virginia,	Scarlatina.
Williams, Jr., William	Virginia,	Epidemic Fever that prevailed in Virginia, during the Autumn of 1845.
Wilson, Andrew J.	Virginia,	Tight Lacing.
Wilson, James A.	Pennsylvania,	Scarlatina.
Wimbish, James A.	Virginia,	Hydrogen.
Womble, Pembroke M.	Virginia,	Measles.
Wright, John	Pennsylvania,	Puerperal Fever.
Zimmerman, Reuben P.	Missouri,	Medicine.

Total, 178.

R. M. HUSTON, M. D., Dean.

UNIVERSITY OF PENNSYLVANIA, MEDICAL DEPARTMENT.

SESSION OF 1848–49.

The Medical Lectures will commence on Monday, the 16th day of October, and be delivered under the following arrangement.

Theory and Practice of Medicine, - - -	By NATHANIEL CHAPMAN, M. D.
Anatomy, - - - - - - - - -	" WILLIAM E. HORNER, M. D.
Materia Medica and Pharmacy, - - -	" GEORGE B. WOOD, M. D.
Chemistry, - - - - - - - - -	" JAMES B. ROGERS, M. D.
Surgery, - - - - - - - - -	" WILLIAM GIBSON, M. D.
Obstetrics and the Diseases of Women and Children,	" HUGH L. HODGE, M. D.
Institutes of Medicine, - - - - - -	" SAMUEL JACKSON, M. D.

Clinical Instruction at the Pennsylvania Hospital, by GEORGE B. WOOD, M. D., on Medicine; and GEORGE W. NORRIS, M. D., on Surgery, twice a week.

Demonstrative Instruction in Medicine and Surgery, twice a week, by the Professors of the Medical Faculty, assisted by W. W. GERHARD, M. D., and HENRY H. SMITH, M. D.

Preliminary Lectures will be delivered daily from the 2d to the 14th of October, inclusive.

The rooms for Practical Anatomy will be open from October 1st, to the end of March ensuing. JOHN NEILL, M. D., Demonstrator.

Amount of Fees for Lectures in the University, $105; Matriculating Fee (paid once only), $5; Hospital Fee, $10; Practical Anatomy, $10; Graduating Fee, $30.

The Commencement will take place early in April.

W. E. HORNER, M. D, *Dean of the Medical Faculty,*
No. 386 *Chestnut Street, above Thirteenth, opposite the U. S. Mint.*
Philadelphia, August 1st, 1848.

PENNSYLVANIA MEDICAL COLLEGE.

FILBERT STREET ABOVE ELEVENTH, PHILADELPHIA.

The Annual Course of Instruction for the Session of 1848–49, will commence on Monday, October 16th, and be continued until the ensuing 1st of March, under the following arrangement:—

Principles and Practice of Medicine, - -	By WM. DARRACH, M. D.
Obstetrics and Diseases of Women and Children,	" JOHN WILTBANK, M. D.
Materia Medica and Therapeutics, - - -	" HENRY S. PATTERSON, M. D.
Anatomy and Physiology, - - - -	" WM. R. GRANT, M. D.
Principles and Practice of Surgery, - - -	" DAVID GILBERT, M. D.
Medical Chemistry, - - - - - -	" WASHINGTON L. ATLEE, M. D.

The Anatomical Rooms will be opened on the 1st of October, under the direction of Prof. GRANT, assisted by A. F. M'INTYRE, M. D., Demonstrator of Anatomy.

Pupils in attendance upon a Second Course of Lectures are provided with Tickets of admission to the Clinic of the Pennsylvania Hospital, Pine Street.

FEES.—Matriculation, $5; for each Ticket, $15; Graduation, $30.

HENRY S. PATTERSON, M. D., *Registrar,*
No. 92 *Arch Street.*

SYDENHAM MEDICAL INSTITUTE,

FOR PRIVATE MEDICAL INSTRUCTION.

EXAMINATIONS, on Anatomy and Surgery, by A. C. POST, M. D., Surgeon to N. York Hospital, 4 Leroy place, (Bleecker street.)

" Theory and Practice of Medicine, by H. D. BULKLEY, M. D., Physician to N. York Hospital, 43 Bleecker street.

" Chemistry and Materia Medica, by B. W. MCCREADY, M. D., Prof. of Materia Medica and Pharmacy in N. York College of Pharmacy, 75 Spring street, near Crosby.

" Obstetrics and Diseases of Women and Children, by THOMAS F. COCK, M. D., Visiting Physician of the Lying-in Asylum, 54 Bond street.

Students received for the winter only, or for the entire year. Those who join the Association for a period not less than eight months, will be entitled to tickets of admission for the year to the New York Hospital.

NEW YORK, *September* 27, 1848.

JEFFERSON MEDICAL COLLEGE.

SESSION OF 1848-9.

The regular Course of Lectures will commence on Monday, the 16th of October, and continue until the first day of March.

ROBLEY DUNGLISON, M. D., Professor of Institutes of Medicine, &c.
ROBERT M. HUSTON, M. D., Professor of Materia Medica and General Therapeutics.
JOSEPH PANCOAST, M. D., Professor of General, Descriptive and Surgical Anatomy.
JOHN K. MITCHELL, M. D., Professor of Practice of Medicine.
THOMAS D. MUTTER, M. D., Professor of Institutes and Practice of Surgery.
CHARLES D. MEIGS, M. D., Professor of Obstetrics and Diseases of Women and Children.
FRANKLIN BACHE, M. D., Professor of Chemistry.
ELLERSLIE WALLACE, M. D., Demonstrator of Anatomy.

Every Wednesday and Saturday in the month of October, and during the Course, Medical and Surgical cases are investigated, prescribed for, and lectured on before the class. During the past year more than thirteen hundred cases were treated, and nearly two hundred surgical operations performed, in the presence of the class, including many of the major operations, as lithotomy, amputations, &c. The Lectures are so arranged as to permit the student to attend the Medical and Surgical practice and Lectures at the Pennsylvania Hospital. After the first of October, the Dissecting Rooms of the College will be open, under the direction of the Professor of Anatomy and the Demonstrator.

FEES.—Matriculation, which is paid only once, $5; each Professor $15, = $105; Graduation, $30.

The number of Students during the last Session was 480; and of graduates 178.

R. M. HUSTON, M. D., *Dean of the Faculty,*
July, 1848. *No.* 1 *Girard Street.*

COLLEGE OF PHYSICIANS AND SURGEONS, OF THE UNIVERSITY OF THE STATE OF NEW YORK.

The Forty-second Session of the College will be commenced on Monday, 30th of October, 1848, and continued until the end of March, 1849.

ALEXANDER H. STEVENS, M. D., President of the College and Emeritus Professor of Clinical Surgery.
JOSEPH M. SMITH, M. D., Professor of the Theory and Practice of Medicine and Clinical Medicine.
JOHN B. BECK, M. D., Professor of Materia Medica and Medical Jurisprudence.
JOHN TORREY, M. D., LL. D., Professor of Botany and Chemistry.
ROBERT WATTS, jun., M. D., Professor of Anatomy.
WILLARD PARKER, M. D., Professor of the Principles and Practice of Surgery.
CHANDLER R. GILMAN, M. D., Professor of Obstetrics and the Diseases of Women and Children.
ALONZO CLARK, M. D., Professor of Physiology and Pathology (including Microscopy).
CHARLES E. ISAACS, M. D., Demonstrator of Anatomy.

FEES.—Matriculation Fee, $5; Fees for the full Course of Lectures, $108; Demonstrator's Ticket, $5; Graduation Fee, $25; Board, average $3 per week.

Clinical Instruction is given at the New York Hospital daily, by the Medical Officers, (Professor Smith being one of them,) fee $8 per annum; at the Eye Infirmary, without fee; and upwards of 1000 patients are annually exhibited to the class in the College Clinique. Obstetrical cases and subjects for Dissection are abundantly furnished through the respective departments.

The Annual Commencement is held at the close of the Session; there is also a Semi-annual Examination in September. The requisites for Graduation are,—21 years of age, three years of Study, including two full Courses of Lectures, the *last* of which must have been attended in this College, and the presentation of a Thesis on some subject connected with Medical Science.

In addition to the regular course, and not interfering with it, a Course of Lectures will be commenced on Monday, 2d October, and continued until the 30th October. This Course will be *free.*

R. WATTS, JR., M. D., *Secretary to the Faculty.*
College of Physicians and Surgeons, 67 Crosby Street, New York.

MASSACHUSETTS MEDICAL COLLEGE.

The Medical Lectures of Harvard University will commence on the first Wednesday in November, at the Medical College in Grove Street, Boston, and continue four months.

Obstetrics and Medical Jurisprudence by WALTER CHANNING, M. D.
Materia Medica and Clinical Medicine by JACOB BIGELOW, M. D.
Surgery by GEORGE HAYWARD, M. D.
Chemistry by JOHN W. WEBSTER, M. D.
Theory and Practice of Medicine by JOHN WARE, M. D.
Pathological Anatomy by JOHN B. S. JACKSON, M. D.
Anatomy and Physiology by OLIVER W. HOLMES, M. D.

The fees for the whole course are collectively, $80. Matriculation, $3. Dissecting Ticket, $5; Graduation, $20. Admission to the Hospital and use of the Library are gratuitous.

The New Medical College in Grove Street is of ample dimensions, and contains, besides its Lecture Rooms, a very extensive museum of Healthy and Pathological Preparations, and a complete Chemical Laboratory.

The Massachusetts General Hospital is now one of the largest, best endowed and best arranged institutions in the United States. Four of the Professors in the University are also physicians or surgeons of the Hospital, so that regular clinical instruction is given, and all the surgical operations are open to the medical students during the lectures and throughout the year.

OLIVER W. HOLMES, *Dean.*

BOSTON, *July* 26, 1848.

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*** A few copies of the Journal and News for 1848 being on hand, the publishers will still supply both periodicals for Five Dollars, if remitted immediately.

In calling the attention of the profession to the high character of the American Medical Journal, the publishers append an extract from the report of "The Committee on American Medical Literature," to the National Medical Association at their meeting in Baltimore, May, 1848. After adverting to other matters, they say:—

"The '*Philadelphia Journal*,' which has been already mentioned, was succeeded by the '*American Journal of the Medical Sciences*,' established in 1827, and still continued, having reached its forty-first volume. The long standing of this publication, the support which it has received from many of the best writers in different parts of the country, and the elevated literary character and spirit which have distinguished it, have rendered it a favourite organ of the profession. So much of what is valuable in our periodical literature, during the long protracted period of its existence, has found a place in its pages, that it would be going beyond the limits of this report to attempt an analysis of its contents. Here have been recorded many of those daring operations which are dwelt upon with so much pride by the American surgeon. Numberless cases of unusual interest have been here related by their observers, often accompanied by illustrations, for the most part creditable to the art which has furnished them. Many of the reviews which it contains are conceived and executed in a higher spirit than the mere mechanical analyses and Taliacotian abstracts which so frequently usurp this department of scientific as well as literary journals. This periodical is so well known through the country, and a complete series of it so generally contained in public libraries, that a general index to it from the commencement would be one of the most acceptable offerings which could be made to the medical reader.

"The committee had prepared an account of the most prominent articles under their several heads, but it proves to be too voluminous for a report like the present. The names of some of its contributors will be enough to show how extensively it has been supported by the ablest writers and practitioners of the country. In *Anatomy and Physiology*, original papers have been furnished by Drs. Horner, Moultrie, Coxe, Mussey, Warren, Earle, Smith, Alison, Harrison, Gardner, Leidy and others. In *Surgery*, Drs. Godman, Mussey, Randolph, H. & J. M. Warren, Coates, Mott, Norris, Kirkbride, Geddings, Nott, Shipman, Markoe, Parrish, Mettauer, Mütter, Horner, Pancoast, Watson, Atlee, Hayward, are among those who have lent their assistance, some of the best known among them in many elaborate articles. In the department of *Practical Medicine*, a great number of original Reports and Essays have been supplied by Drs. Chapman, S. Jackson, Emerson, Coxe, Horner, Hayward, Ware, Wright, Jackson (of Northumberland), Parrish, Pennock, Gerhard, Fisher, Nichols, E. Warren, Paine, Bigelow, Webber, Lindsay, Forrey, Beck, Flint, Coale, Earle, Stewardson, Kirkbride, Shanks, Parry, Mettauer, Whitney, Pepper, Hall, Dexter, Jarvis, Beck, Wharton, Lovett, Nott, Moreton Stillé, Boling, Tabb, Taylor, Porter, Tuck, J. B. S. Jackson, Peebles, Kneeland, Gardner, Buckler, Mendenhall, Lane, and R. S. Holmes. On *Midwifery, and the Diseases of Women and Children*, among the principal contributors of original papers have been Drs. Dewees, Horner, Bigelow, Hodge, Gerhard, Geddings, Lindsay, E. Warren, Roberts, Lee, Kane, Shanks, Taylor, Bowen, Buel, Barwell, Bond, Sargent, Sims, and Baldwin. Many other names might be added to these lists, which, however, are sufficient evidence that the journal has been willingly and heartily upheld by the profession."

After enumerating the other Medical Journals published in the United States, the report continues:—

"The committee will now proceed to a brief enumeration of the more important articles, which have, within the past year, or at least recently, been presented to the profession in the medical journals of this country, taking them up in the order in which they have been enumerated.

"*American Journal of the Medical Sciences.*—The number for January, 1847, contains one of Dr. Norris's admirable *resumés*, a 'Table showing the mortality following the operation of tying the iliac arteries.' It is founded upon a hundred and eighteen cases gathered from various sources, which are presented in a condensed form and subjected to a careful analysis. The committee have already fully expressed their sense of the importance of Dr. Norris's labours. The paper which follows, by Dr. Trask of Brooklyn, N. Y., is worthy of succeeding that just mentioned. Four very full tables containing the history of fifty-three cases of phlegmasia dolens are given in this essay, the final object of which is to establish the pathology of the affection. Articles like the two just cited, are necessarily of permanent value. They cannot be superseded, because they have a solid basis of fact, and even if some of their conclusions were erroneous, the materials would remain as the basis of future results. The increased number of these laborious analytical surveys is one of the most encouraging features of our medical literature. In the midst of interminable discussions upon the value of the numerical system, the simple fact that tabulation affords a final result respecting a given number of facts, which mere perusal fails to do, is making itself felt like every truth which has time and fair play. The next article is one by Dr. Kirkbride on Hospitals for the Insane, and the fourth a brief account by Dr. Wilcocks, of the epidemic remittent and intermittent of 1846. Then follow four cases of acute affection of the

spinal marrow, with dissections, by Dr. J. B. S. Jackson of Boston, marked by his accustomed accuracy of description. Several other cases are reported in this number, which contains two reviews of some interest, and the usual variety in its minor departments.

"The first article in the number for April 1847, is one of great practical interest. It is the '*History of seven cases of Pseudo-membranous Laryngitis* or *True Croup*,' by Dr. J. F. Meigs. The fact that recovery took place, in four cases where there was fibrinous exudation on the fauces, entitles the history of these cases to the most careful examination, and affords a strong presumption in favour of the general plan of treatment adopted. It is well known that long series of similar cases have been observed, every one of which has proved fatal, and that the whole question of treatment is considered as involved in perplexity by many able observers. The paper which follows, by Dr. Baldwin, *Observations on the Poisonous Properties of the Sulphate of Quinine*, has been most extensively quoted, and has called out various other communications confirming the results at which he has arrived. In the malarious regions of our country, where the "monster doses" of this heroic remedy are so commonly given, it is of vital importance that all the risks they involve should be generally known. Then follow various reports of medical and surgical diseases, among which Dr. Earle's eleven cases of general paralysis of the insane cannot fail to be noticed for their psychological and pathological bearings, as well as the happy way in which they are related. A practical essay by Dr. Hildreth, on letting blood from the jugular in diseases of children concludes the list of original communications.

"The July number opens with another statistical article from Dr. Norris, on the operation of tying the carotids, of the same high character with those which he has furnished in previous numbers. The next paper is one by Dr. Hallowell, on cholera infantum, which he calls by the singular name of *gastro-follicular enteritis;* which would seem to imply inflammation of the intestines seated in the follicles of the stomach. The essay is an instructive one, based on considerable experience and supported by two reported cases with a tabular analysis of twelve *post-mortem* examinations. A '*Note on the frequency of the pulse and respiration of the aged*,' by Dr. Pennock, adds authority to the curious results obtained by Leuret and Mitivié, who found the average frequency of the pulse in young men to be 65 per minute, while that of the aged was 73; a statement in direct opposition to the prevailing belief on this point. '*Hydropathy, or the use of cold water for the Prevention and Cure of Disease*,' by Dr. Kneeland, is the title of a Boylston prize essay, here published without any allusion to its laureate honours. The key to the author's position is found in the following sentence: 'Instead of leading man back to the forsaken paths of nature, physicians have preferred the easier plan of ministering to this altered condition by the ingenious and stupendous system of modern therapeutics.' He appears to believe, and as the Committee think, very justly, that much indirect benefit may result even from the experiments of the hydropathist and homœopathist, notwithstanding the illusions and impositions that surround the fountain of the Silesian boor and the laboratory of the Saxon necromancer. The interest of Dr. Brown's account of his visit to the Cretins, in the institution on the Abendberg, is owing not merely to the novelty of the subject, which is just begininng to attract the attention of philanthropists, but to the agreeable style of the narrative. In a country which has done as much as our own for the insane, the blind and the deaf and dumb it cannot be long before the improvement of the condition of the unfortunate idiot will be felt to be a public duty. Dr. Mettauer, whose name is familiar to the records of operating surgery, reports two cases of vesico-vaginal fistula, with the operations for their relief, one of which was perfectly successful, and the other, though repeated again and again, was but partially so. But this, as Dr. Mettauer thinks, was owing to the patient's amiable indiscretions, and he is decidedly of opinion that every case of vesico-vaginal fistula can be cured. Dr. Harris relates a case of doubtful sex, in connection with which the editor quotes that described by Dr. Barry, in the New York Journal of Medicine for January, 1847. Dr. Boling's new sign of pneumonia of the apex of the lungs, needs confirmation by other observers. The Committee can affirm, at least, that it is not constant. It was extraordinary if, as Dr. Boling asserts, the chest remained still resonant on percussion over the apex of the lung in a state of hepatization. This number contains a long notice of Dr. Wood's Practice of Medicine, by one of the most searching and skilful reviewers our periodicals have ever enlisted in their service. It may be hinted, that one epithet, however *judicious*, must not be repeated too often; the accomplished reviewer remembers Gyas and Cloanthus.

"The number for October, 1847, has for its leading article a continuation of Dr. Metcalf's *Statistics in Midwifery*, containing the results of 927 cases observed in private practice. It is a most creditable production to the author and the friends by whom he was aided, and may serve as an encouragement and a model to other practitioners situated at a distance from the more active centres of scientific industry. Dr. Michel's history of an early ovum is not without interest, though its illustration is less exquisite than the 'Icones' of Wagner, and the style is wanting in the simplicity which should belong to an anatomical description. Dr. Harden's Essay on Isopathia, agrees with the general belief in maintaining the similarity of scrofula and phthisis, but will hardly be thought to have established the doctrine, that Bright's disease is

isopathic with these affections. Why *molluscum* should come under the same head is hard to explain. In the days of isomerism and isomorphism, it is natural enough for a medical observer to be pleased with the thought of introducing some such parallelism of elements into medicine, but it may be questioned, how much is gained by the somewhat promiscuous erudition and finely drawn propositions of this elaborate essay, beyond a harmonious name for a well known principle. Dr. Kelley of Mobile, has given an account of yellow fever as this disease has presented itself to his own notice, written in clear and simple language, and keeping more closely than many writers on this subject have done to the strict results of observation. Some remarkable surgical cases and operations, a case of incision of the os uteri during labour on account of its partial occlusion, some researches on the structure and functions of the ciliary processes, and the case of the murderer Freeman, with a long review of some of the Boâ Vista fever documents finish the list of original articles. In this number, October 1847, appears a new and distinct head of medical intelligence, entitled *ether inhalation as a means of annulling pain.* It is remarkable, that as so much patient deliberation was shown in preparing the abstract of what was before the public, on this subject, an article like that of Dr. Pickford should be admitted, but more remarkable still, that any sensible reader should have been frightened out of receiving the last great gift of Mercy, by the assertions of such a writer, as would appear to have happened in at least one instance.

"In the number for January, 1848, the leading article is Dr. Leidy's paper on the Comparative Structure of the Liver. This is unquestionably the most exact and complete Essay in the department of microscopic anatomy which has appeared in any American Medical Journal. The patient accuracy of the measurements, the finish and clearness of the numerous illustrations are nothing more than would have been anticipated by those who know the zeal and talent of this exquisite dissector and delineator. The article which follows, by Dr. Frick, is one of the first attempts at the investigation of the chemical changes of the blood induced by disease, made in this country. Most of the conclusions arrived at by the laborious observations which served as its basis, coincide with those of previous observers. One peculiar and novel result arrived at by Dr. Frick is, that the quantity of the chlorides and phosphates of soda and potash is dependent, not upon the particular disease, but upon the *season of the year* in which the examination is made, being much higher in winter and spring than in summer and fall. Dr. Folta deserves credit for printing his valuable Report on Scorbutus. It could be wished that all officers in the public service would discharge their professional debt as faithfully. Some of the author's expressions would seem to imply that *proteine exists only in vegetables*, which cannot surely have been what he intended to assert. Dr. Blake's paper appears to be founded on the same experiments which this ingenious physiologist reported some years ago to the British Association, and which have already taken their place in physiological science. The indefatigable Dr. Earle gives a brief analysis of five hundred and ninety-four cases of delirium tremens admitted into the Bloomingdale Asylum. Then follow several reports of interesting surgical cases; under the name of 'Monograph' we have next 'A Statistical Inquiry into the Causes, Symptoms, Pathology, and Treatment of Rupture of the Uterus,' by Dr. Trask, of Brooklyn, whose labours have been already mentioned with commendation.

"The first paper in the April number is an account, by Dr. J. M. Warren, of Operations for Fissure of the Soft and Hard Palate, with the result of twenty-four cases, at the close of which is an important additional note upon the early operation for hare-lip. Dr. Warren proposed, some years ago, and has often executed, a new operation, which is fully described in this paper and the annexed cases. Dr. Peeble's 'Result of cases of Pneumonia, treated chiefly by Tartar Emetic,' may be well calculated to excite attention to the possible ill effects of that remedy, but is deficient in the diagnostic elements of its cases. The third patient, for instance, may have suffered, for all that appears, from phthisis with ulceration of the bowels. It does not appear from the record that the previous good health had persisted unchanged up to the period of the acute attack. Cases of successful vaginal hysterotomy and delivery by the forceps; of traumatic trismus successfully treated; of a fatal gun-shot wound of the neck; of ligature of both carotids; of the extirpation of a tumour of the uterus, simulating ovarian disease; of cancer of the stomach, and of melanosis, are reported in this number—certainly a very remarkable collection of important medical and surgical histories, and implying an ample supply of materials to allow of such selections. Add to this Dr. Parson's 'Statistics of Large Surgical Operations,' the Midwifery Statistics from private practice, by Dr. Pleasants, and the continuation of Dr. Trask's paper on Rupture of the Uterus, probably the most complete account of that accident to be found in print, and it must be owned that the patriarchal quarterly has not fallen below its own high standard of merit, at the point where the Committee takes leave of it for the present."*

* These extracts are from copies of the Report to be furnished to the Chairman of that Committee, Dr. Holmes of Boston.

For a more particular description of the Journal and News, with numerous notices of the press, &c., see Supplement to the Medical News and Library, for Dec. 1848.

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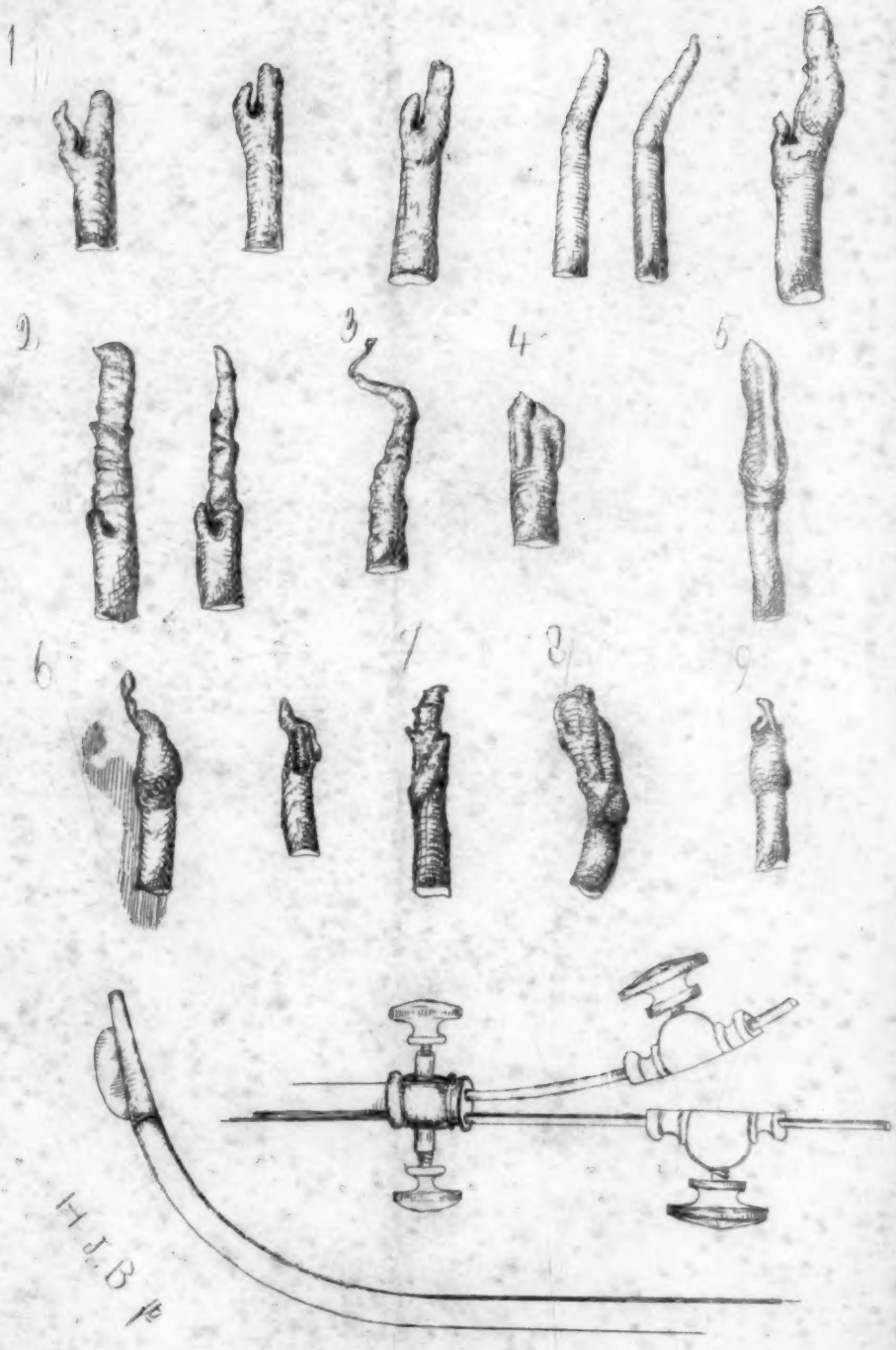
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